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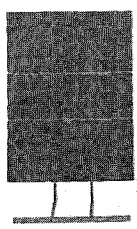
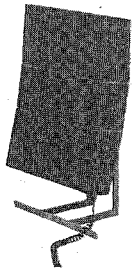




BEOVOX 4

SERVICEANVISNING
SERVICE MANUAL

Bang & Olufsen

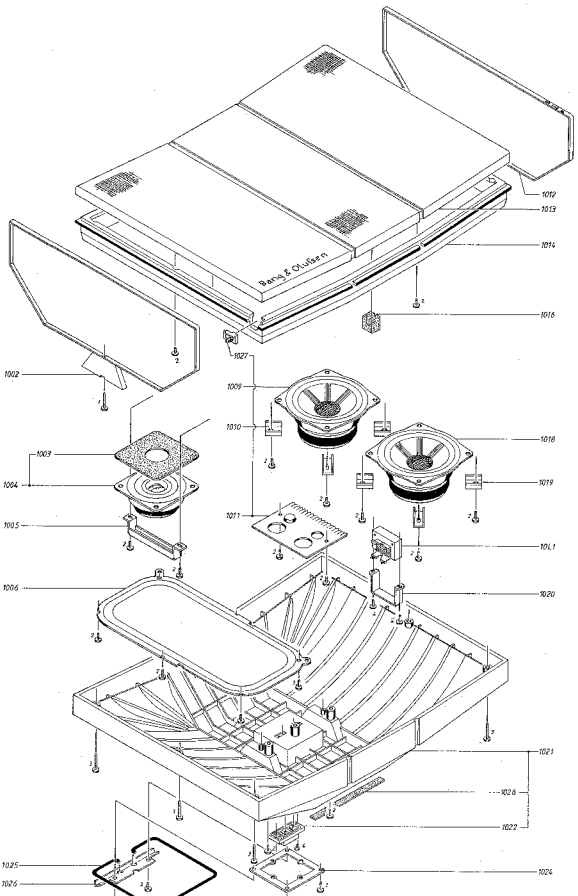
INDHOLD

Red Line RL60, type 6503 1-1
Tilbehør 1-5
Loftssøjle, type 6022 1-5
Understel, type 6018 1-6
Red Line RL45, type 6504 1-9
Tilbehør 1-12

CONTENTS

Red Line RL60, type 6503 1-1
Accessories 1-5
Ceiling Bracket, type 6022 1-5
Stand, type 6018 1-6
Red Line RL45, type 6504 1-9
Accessories 1-12

RED LINE RL60, TYPE 6503



Mekanisk stykliste
List of Mechanical Parts

1002	3940138	Tyntebånd	Ribbon
1003	3340045	Pakning	Gasket
1004	8480176	Diskant højttaler	Tweeter
1005	3031125	Bøjle	Clamp
1006	8480180	ABR enhed	ABX unit
1009	8480177	Bas højttaler	Woofer
1010	3031124	Beslag	Fitting
1011	8039016	Delefilter	Crossover network
1012	3940137	Pyntebånd m. tryk	Ribbon with print
1013	3440085	Baffel m. stof	Baffle with cloth
1014	3320094	Ramme f. kabinet	Frame for cabinet
	3340055	Pakning til ramme	Gasket for frame
1016	3907045	Gummiklods	Rubber block
1018	8480177	Bas højttaler	Woofer
1019	3031124	Beslag	Fitting
1020	2510147	Bøjle	Clamp
1021	3414857	Kabinet	Cabinet
*1023	7210509	Dobbelt stikterminal	Double connection terminal
1024	3031110	Beslag ophæng	Fitting for wall mounting
1025	2514050	Støttebøjle	Support bow
1026	2548217	Beslag f. støttebøjle	Fitting for support bow
1027	7210507	DIN stik	DIN socket
1028	3912049	Filtstykke	Felt piece
10L1	6850014	Spole 6,8 mH	Coil 6.8 mH

Skrueoversigt
Survey of screws

1	2015112	Skrue 3,5x50	Screw 3.5x50
2	2015108	Skrue 3,5x16	Screw 3.5x16
3	2015111	Skrue 3,5x40	Screw 3.5x40
4	2013118	Skrue 3x8	Screw 3x8

Ikke viste dele
Parts not shown

	3031109	Standard beslag	Standard mounting bracket
	2044015	Stilleskrue	Adjustment screw
	3506108	Betjeningsanvisning	Owner's manual
	3922018	Rock-wool klods, lille	Rock-wool block, small
	3922019	Rock-wool klods, stor	Rock-wool block, large
	6270167	Ledning 4 m	Cable 4 m

* I de første højttalere blev der brugt 2 enkeltstik sort stik nr. 7210483, rødt stik nr. 7210484

* The first loudspeakers were fitted with 2 separate sockets, black socket no. 7210483, red socket no. 7210484

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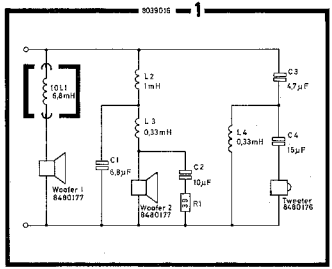
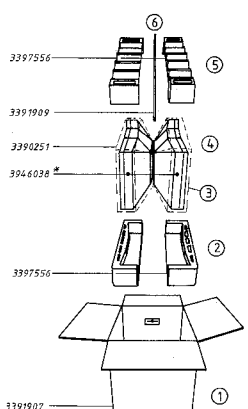
Diagram



Elektrisk stykliste
List of Electrical Parts

R1	5020692	39 Ω 5% 3W			
C1	4200336	6.8 µF 20% 23V	C3	4200387	4.7 µF 20% 23V
C2	4200337	10 µF 20% 23V	C4	4200273	15 µF 20% 23V
L2	6850153	Coil 1mH	L4	6850144	Coil 0.33mH
L3	6850019	Coil 0.33mH			
10L1	6850014	Coil 6.8mH			

Pakke procedure
Packing procedure



* Folie 3946038 leveres i metermål.

* Foil 3946038 is sold by the metre.

Technical specifications

RMS power handling capacity	60 watts
Music power handling capacity	90 watts
Impedance	8 ohms
Frequency range +4 -8 dB	45-20,000 Hz
Power at 96 dB SPL	2 watts
Sensitivity 1 W	93 dB
Distortion 250-1000 Hz	<1%
Distortion >1000 Hz	<0.5%
Acoustic principle	ABR, Auxiliary Bass Radiator
ABR unit	15 x 33 cm
Woofer	2 units 5" - 13 cm
Tweeter	1" - 25 mm
Crossover frequency	2500 Hz
Net. volume	19 litres
Dimensions WxHxD	54 x 40.5 x 18 cm
Weight	9 kg

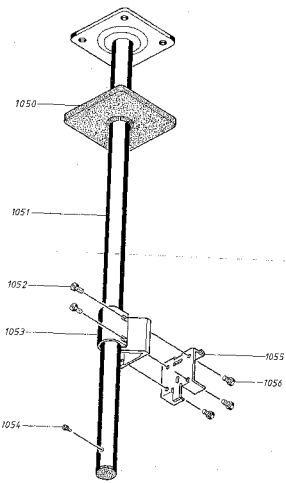
Subject to change without notice

Bang&Olufsen

Oversigt over tilbehør til RL60
Survey of accessories for RL60

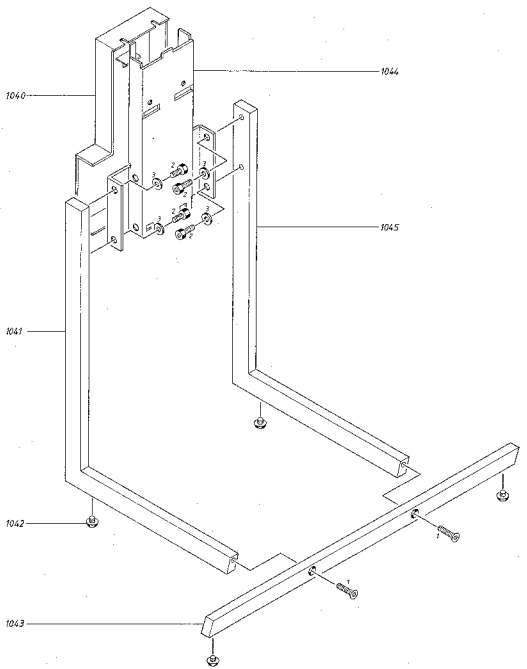
8960246	Spiralledning	Rod Line Cord
3124101	Opspændingsplade til lette skillevægge	Wall plate for light partition walls
8960220	Loftssøjle	Ceiling Bracket
8960187	Underatel	Stand
8960206	Indstillelig vægbeslag	Wall Bracket
3390263	Pose m. dele til indstillelig vægbeslag	Bag w. parts for Wall Bracket

Loftssøjle, 8960220
Ceiling Bracket, 8960220



1050	3162224	Dæksel	Cover plate
1051	3103195	Rør	Tube
1052	2044035	Skrue AM5x10	Screw AM5x10
1053	2644016	Spændestykke	Triangle with ribbon
1054	2042201	Skrue AM4x4	Screw AM4x4
1055	3031109	Standard beslag	Standard mounting bracket
1056	2044035	Skrue AM5x10	Screw AM5x10
	3390262	Pose m. dele	Bag w. parts
	3391922	Emballage	Packing

Understel, 8960187
Stand, 8960187



1040	3162218	Dækplade	Cover plate
1041	3930062	Endestykke, venstre	End piece, left
1042	3035026	Gummifod	Rubber foot
1043	2568854	Skinne	Bar
1044	3031119	Beslag	Mounting bracket
1045	3930061	Endestykke, højre	End piece, right
	2516007	Stilleskrue	Adjustment screw
	3031109	Standard beslag	Standard mounting bracket
	3390258	Pose m. dele	Bag w. parts
	2044029	Skrue M5x6	Screw M5x6
	3040016	Sekskantnøgle 4 mm	Hexagon spanner 4 mm
	3040020	Sekskantnøgle 2,5 mm	Hexagon spanner 2.5 mm
	3397541	Skumemballage	Foam packing
	3391914	Omslag	Wrapper
	3946013	Plastfolie 1 m	Plastic foil 1 m

Skrueoversigt
Survey of screws

1	2042049	Skrue M4x20	Screw M4x20
2	2044012	Skrue M5x10	Screw M5x10
3	2622028	Skive	Washer

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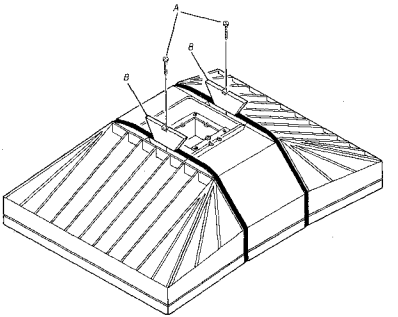
Adskillelse

Disassembly



Aftag de to skruer A.

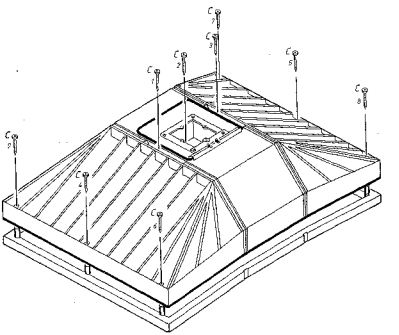
De to spændestykker B med pyntebånd kan nu aftages.

NB! Vær opmærksom på at det kun er det øverste bånd, der er forsynet med tekst, samt at teksten vendes korrekt ved samling af højttaleren igen

Remove the two screws A.

The two triangles B with ribbon can now be removed.

NB! Note that only the upper ribbon is supplied with text, and make sure the text is turned correctly when re-assembling.



Aftag de ni skruer C.

Bagparten kan nu tages af.

Ved samling af højttaleren igen skal skruerne spændes i rækkefølgen 1-9, for at sikre at kabinettet er helt tæt.

Anbefalet tilspændingsmoment er 15 kp/cm.

Remove the nine screws C.

The rear part can now be removed.

When re-assembling the loudspeaker the screws must be tightened in the order 1-9, in order to ensure that the cabinet is completely tight.

Recommended torque is 15 kp/cm.

Servicetips

Reparationsmetode for skruehuller til kabinetsammenspænding.

Hvis skruerne til kabinetsammenspænding (mærket 3 på tegning) skrues over, kan følgende reparationsmetode anvendes:

Mellemramme (pos. 1014) afmonteres.

De 6 huller i baflen bores op til 6,2 mm.

Indslagsbøsning 2389054 hamres i de opborede huller, indtil de flugter med overfladen.

Højttaleren samles igen, og der anvendes M4 skruer til sammenspænding:

RL45, type 6504, AM4x16 mm, bestillingsnr. 2043035
RL60, type 6503, AM4x25 mm, bestillingsnr. 2043031

Service Tips

Repair method for screw holes for cabinet assembly.

In case the screws for cabinet assembly (marked 3 on the drawing) are stripped, the following repair method may be used.:

Connecting frame (pos. 1014) is dismantled.

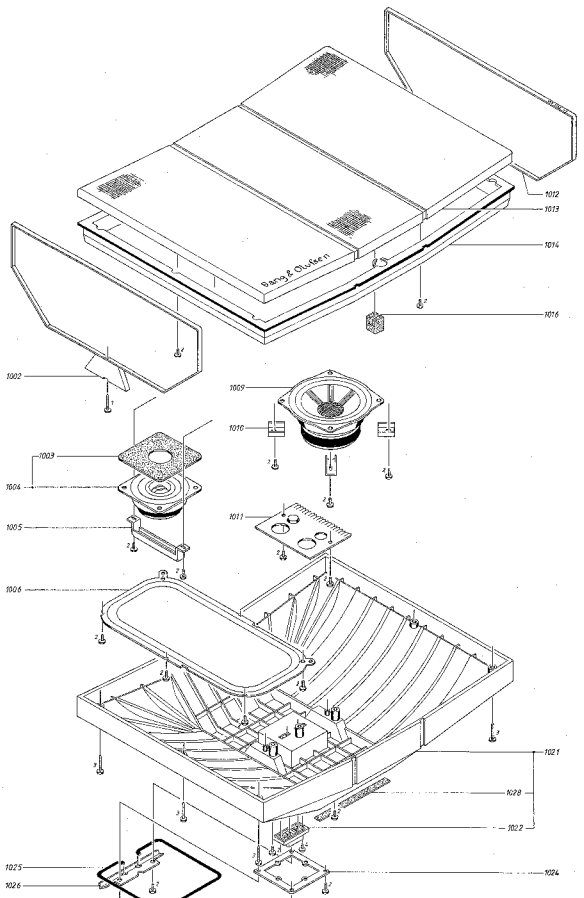
The 6 holes in the baffle are rebored to 6.2 mm.

Drive-fit bushing 2389054 is hammered into the rebored holes, until they flush.

Re-assemble loudspeaker and use M4 screws for assembly:

RL45, type 6504, AM4x16 mm, part no. 2043035
RL60, type 6503, AM4x25 mm, part no. 2043031

RED LINE RL45, TYPE 6504



Mekanisk stykliste
List of Mechanical Parts

1002	3940146	Pyntebånd	Ribbon
1003	3340045	Pakning	Gasket
1004	8480176	Diskant højttaler	Tweeter
1005	3031125	Bøjle	Clamp
1006	8480180	ABR enhed	ABR unit
1009	8480178	Bas højttaler	Woofer
1010	3031124	Beslag	Fitting
1011	8039070	Delefilter	Crossover network
1012	3940145	Pyntebånd m. tryk	Ribbon with print
1013	3440086	Baffel m. stof	Baffle with cloth
1014	3320095	Ramme f. kabinet	Frame for cabinet
	3340055	Pakning til ramme	Gasket for frame
1016	3907045	Gummiklods	Rubber block
1021	3414857	Kabinet	Cabinet
*1022	7210509	Dobbelt stikterminal	Double connection terminal
1024	3031110	Beslag ophæng	Fitting for wall mounting
1025	2514050	Støttebøjle	Support bow
1026	2548217	Beslag f. støttebøjle	Fitting for support bow
1028	3912049	Filtstykke	Felt piece

Skrueoversigt
Survey of screws

1	2015112	Skrue 3,5x50	Screw 3.5x50
2	2015108	Skrue 3,5x16	Screw 3.5x16
3	2015111	Skrue 3,5x40	Screw 3.5x40
4	2013118	Skrue 3x8	Screw 3x8

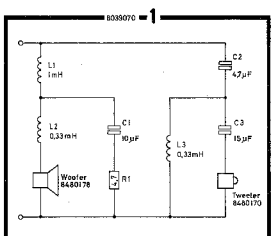
Ikke viste dele
Parts not shown

3031109	Standard beslag	Standard mounting bracket
2044015	Stilleskrue	Adjustment screw
3506108	Betjeningsanvisning	Owner's manual
3922018	Rock-wool klods, lille	Rock-wool block, small
3922019	Rock-wool klods, stor	Rock-wool block, large
6270167	Ledning 4 m	Cable 4 m

* I de første højttalere blev der brugt 2 enkeltstik sort stik nr. 7210483, rødt stik nr. 7210484

* The first loudspeakers were fitted with 2 separate sockets, black socket no. 7210483, red socket no. 7210484

Diagram



Elektrisk stykliste
List of Electrical Parts

R1	5104012	4.7 Ω 10% 3W

C1	4200337	10 µF 20% 23V	C3	4200273	15 µF 20% 23V
C2	4200387	4.7 µF 20% 23V			

L1	6850153	Coil 1mH	L3	6850144	Coil 0.33mH
L2	6850019	Coil 0.33mH			

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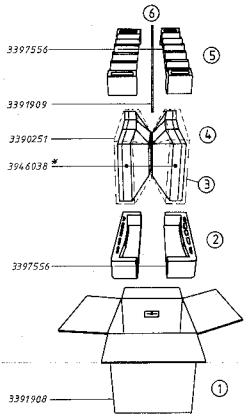
Pakke procedure
Packing procedure



* Folie 3946038 leveres i metermål.

* Foil 3946038 is sold by the metre.

Technical specifications

RMS power handling capacity	45 watts
Music power handling capacity	60 watts
Impedance	8 ohms
Frequency range +4 -8 dB	48-20,000 Hz
Power at 96 dB SPL	2.5 watts
Sensitivity 1 W	92 dB
Distortion 250-1000 Hz	<1%
Distortion >1000 Hz	<1%
Acoustic principle	ABR, Auxiliary Bass Radiator
ABR unit	15 x 33 cm
Woofer	6½" - 16 cm
Tweeter	1" - 25 mm
Crossover frequency	2500 Hz
Net. volume	16 litres
Dimensions WxHxD	54 x 40.5 x 16 cm
Weight	7.5 kg

Subject to change without notice

Oversigt over tilbehør til RL45
Survey of accessories for RL45

3124101	Opspændingsplade til lette skillevægge	Wall plate for light partition walls
8960220	Loftssøjle	Ceiling Bracket
8960187	Understel	Stand
8960206	Indstillelig vægbeslag	Wall Bracket
3390263	Pose m. dele til indstillelig vægbeslag	Bag w. part for Wall Bracket

Loftssøjle, 8960220
se side 1-5

Ceiling Bracket, 8960220
see page 1-5

Understel, 8960187
se side 1-6

Stand, 8960187
see page 1-6

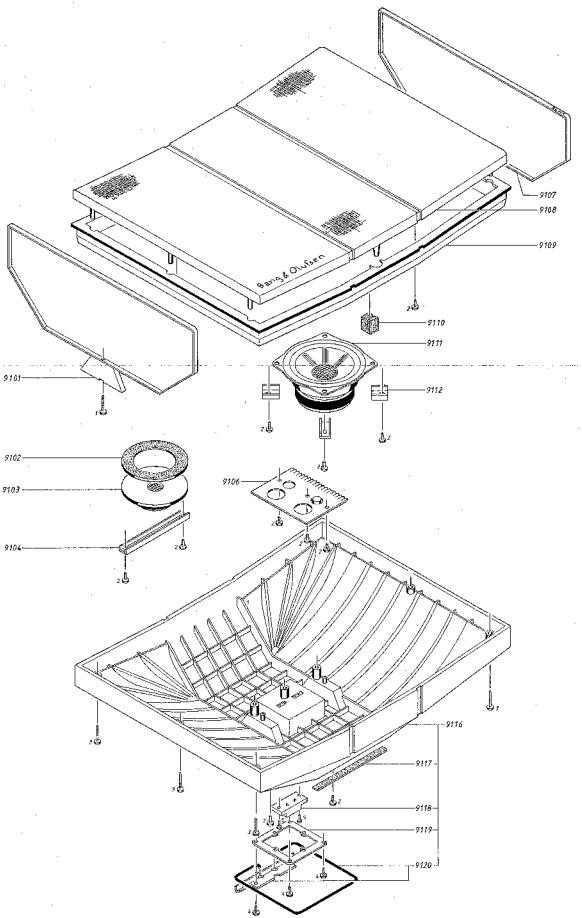
Adskillelse
se side 1-7

Disassembly
see page 1-7

Servicetips
se side 1-8

Service Tips
see page 1-8

RL45.2, TYPE 6514



Mekanisk stykliste
List of Mechanical Parts

9101	3940146	Pyntebånd	Ribbon
9102	3340067	Pakning	Gasket
9103	8480199	Diskant højttaler	Tweeter
9104	3031143	Beslag	Fitting
9106	8039072	Delefilter	Crossover network
9107	3940186	Pyntebånd m. tryk	Ribbon with print
9108	3440099	Baffel m. stof	Baffle with cloth
9109	3320095	Ramme f. kabinet	Frame for cabinet
	3340055	Pakning til ramme	Gasket for frame
9110	3907045	Gummiklods	Rubber block
9111	8480178	Bas højttaler	Woofer
	3340048	Pakning f. bas højttaler	Gasket for woofer
9112	3031124	Beslag	Fitting
9116	3414857	Kabinet	Cabinet
9117	3912049	Filtstykke	Felt piece
9118	7210509	Dobbelt stikterminal	Double connection terminal
9119	3031110	Beslag ophæng	Fitting for wall mounting
9120	2514050	Støttebøjle m. beslag	Support bow with fitting

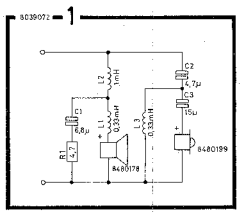
Skrueoversigt
Survey of screws

1	2019012	Skrue 4x50	Screw 4x50
2	2019011	Skrue 4x16	Screw 4x16
3	2019013	Skrue 4x40	Screw 4x40
4	2019009	Skrue 4x12	Screw 4x12
5	2013123	Skrue 3x10	Screw 3x10

Ikke viste dele
Parts not shown

	3031109	Standard beslag	Standard mounting bracket
	2044015	Stilleskrue	Adjustment screw
	3922018	Rock-wool klods, lille	Rock-wool block, small
	3922019	Rock-wool klods, stor	Rock-wool block, large
	6270167	Ledning 4 m	Cable 4 m
	3506112	Betjeningsanvisning	Owner's manual
	3391908	Ydercske	Outer carton
	3391909	Indlæg	Insert
	3397556	Skumemballage sæt	Foam packing set
	3390277	Folie pose	Foil bag

Diagram



Elektrisk stykliste
List of Electrical Parts

R1	5104012	4.7 Ω 10% 3W			
C1	4200457	6.8 µF 20% 35V	C3	4200273	15 µF 20% 23V
C2	4200387	4.7 µF 20% 23V			

For udskiftning af spoler L1 - L3 bestilles komplet delefilter.

When replacing coils L1 - L3, order complete crossover network.

INDKLÆBES I SERVICEANVISNING BEOVOX 4
TO PASTE INTO SERVICE MANUAL BEOVOX 4

1-13

Technical specifications
RL 45.2

RMS power handling capacity	45 watts
Music power handling capacity	60 watts
Impedance	8 ohms
Frequency range +4 -8 dB	48-20,000 Hz
Power at 96 dB SPL	2.5 watts
Sensitivity 1 W	92 dB
Acoustic principle	Bass Reflex
Woofer	6 1/2" - 16 cm
Tweeter	3/4" - 1.9 cm
Crossover frequency	2500 Hz
Net. volume	16 litres
Dimensions W x H x D	54 x 40.5 x 16 cm
Weight	6.8 kg

Subject to change without notice

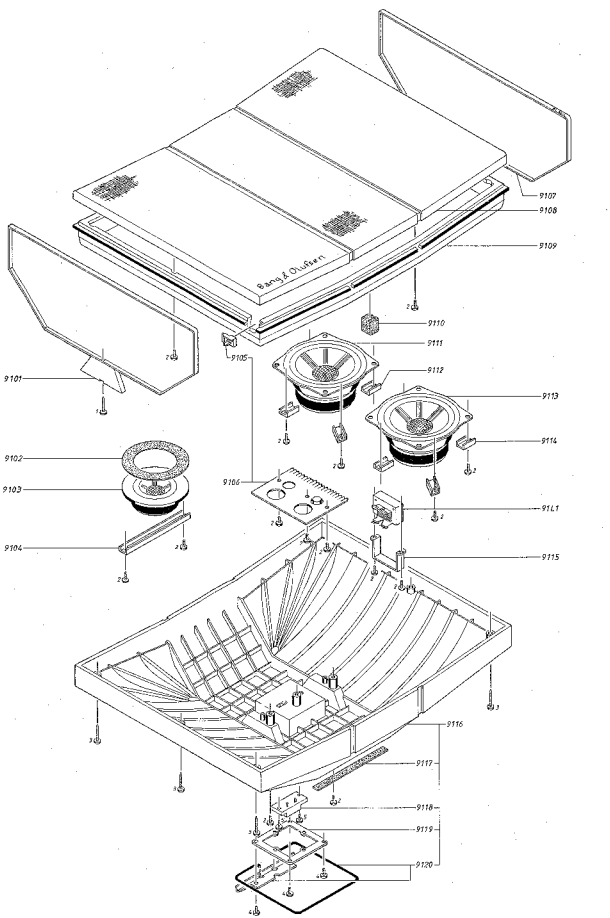
Technical specifications
RL 60.2

RMS power handling capacity	60 watts
Music power handling capacity	90 watts
Impedance	8 ohms
Frequency range +4 -8 dB	42-20,000 Hz
Power at 96 dB SPL	2 watts
Sensitivity 1 W	93 dB
Acoustic principle	Bass Reflex
Woofer	2 units 5" - 13 cm
Tweeter	1" - 2.5 cm
Crossover frequency	3500 Hz
Net. volume	19 litres
Dimensions W x H x D	54 x 40.5 x 18 cm
Weight	8.3 kg

Subject to change without notice

1-14

RL60.2, TYPE 6513



Mekanisk stykliste
List of Mechanical Parts

9101	3940138	Pyntebånd	Ribbon
9102	3340066	Pakning	Gasket
9103	8480200	Diskant højttaler	Tweeter
9104	3031143	Beslag	Fitting
9105	7210507	DIN stik	DIN socket
9106	8039073	Delefilter	Crossover network
9107	3940187	Pyntebånd m. tryk	Ribbon with print
9108	3440098	Baffel m. stof	Baffle with cloth
9109	3320094	Ramme f. kabinet	Frame for cabinet
	3340055	Pakning til ramme	Gasket for frame
9110	3907045	Gummiklods	Rubber block
9111	8480177	Bas højttaler	Woofer
9112	3031124	Beslag	Fitting
9113	8480177	Bas højttaler	Woofer
9114	3031124	Beslag	Fitting
9115	2510151	Bøjle	Clamp
9116	3414857	Kabinet	Cabinet
9117	3912049	Filtstykke	Felt piece
9118	7210509	Dobbelt stikterminal	Double connection terminal
9119	3031110	Beslag ophæng	Fitting for wall mounting
9120	2514050	Støttebøjle m. beslag	Support bow with fitting

91L1	6850186	Spole 6,8 mH	Coil 6.8 mH

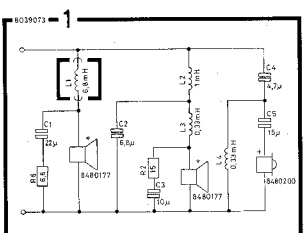
Skrueoversigt
Survey of screws

1	2019012	Skrue 4x50	Screw 4x50
2	2019011	Skrue 4x16	Screw 4x16
3	2019013	Skrue 4x40	Screw 4x40
4	2019009	Skrue 4x12	Screw 4x12
5	2013123	Skrue 3x10	Screw 3x10

Ikke viste dele
Parts not shown

	3031109	Standard beslag	Standard mounting bracket
	2044015	Stilleskrue	Adjustment screw
	3922018	Rock-wool klods, lille	Rock-wool block, small
	3922019	Rock-wool klods, stor	Rock-wool block, large
	6270167	Ledning 4 m	Cable 4 m
	3506113	Betjeningsanvisning	Owner's manual
	3391907	Yderæske	Outer carton
	3391909	Indlæg	Insert
	3397556	Skumemballage sæt	Foam packing set
	3390277	Folie pose	Foil bag

Diagram



Elektrisk stykliste
List of Electrical Parts

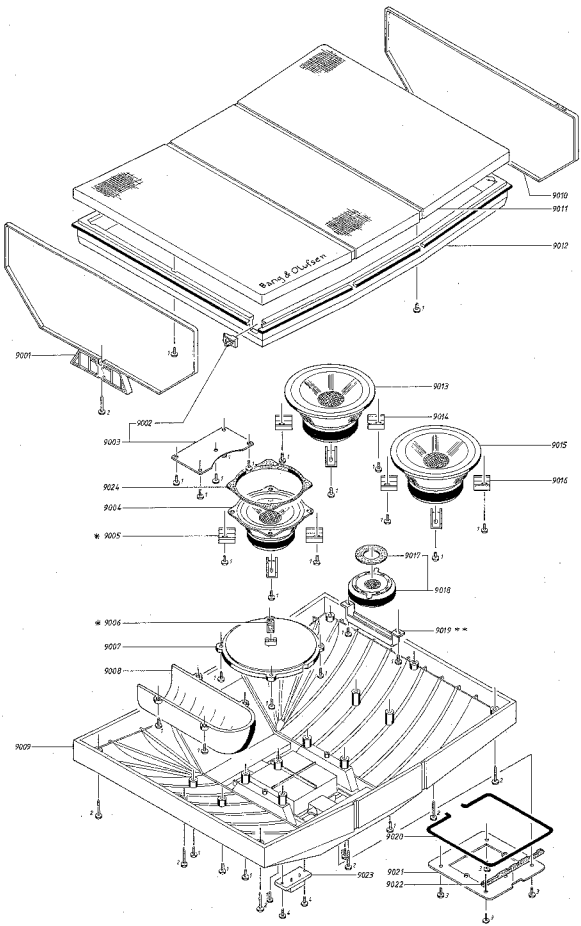
R2	5100200	15 Ω 10% 3W	R5	5100242	6.8 Ω 5% 3W

C1	4200468	22 µF 20% 23V	C4	4200387	4.7 µF 20% 23V
C2	4200336	6.8 µF 20% 23V	C5	4200273	15 µF 20% 23V
C3	4200337	10 µF 20% 23V			

For udskiftning af spoler L2 - L4 bestilles komplet delefilter.

When replacing coils L2 - L4, order complete crossover network.

RL 140, TYPE 6501



Mekanisk stykliste
List of Mechanical Parts

9001	3940158	Pyntebånd uden tryk	Ribbon without print
9002	7210508	DIN-stik	DIN socket
9003	8006015	Delefilter	Crossover network
9004	8480190	Mellemtone-højttaler	Mid-range loudspeaker
9005*	3031124	Beslag f. mellemtone-højttaler	Fitting for mid-range loudspeaker
9006*	3907045	Gummiklods	Rubber block
9007	3160030	Dæksel f. mellemtone-højttaler	Cover f. mid-range loudspeaker
9008	3458410	Rør f. bas port	Tube f. port
9009	3414557	Kabinet	Cabinet
9010	3940159	Pyntebånd med tryk	Ribbon with print
9011	3440089	Baffel m. stof og rør f. bas port	Baffle with cloth and tube f. port
9012	3320101	Ramme m. pakning f. kabinet	Frame with gasket for cabinet
	3340062	Pakning f. ramme	Gasket for frame
9013	8480186	Bas-højttaler	Woofer
9014	3031124	Beslag f. bas-højttaler	Fitting for woofer
9015	8480186	Bas-højttaler	Woofer
9016	3031124	Beslag f. bas-højttaler	Fitting for woofer
9017	3340064	Pakning f. diskant-højttaler	Gasket for tweeter
9018	8480191	Diskant højttaler	Tweeter
9019**	3031143	Beslag f. diskant-højttaler	Fitting for tweeter
9020	2514052	Støttebøjle	Support bow
9021	3031115	Beslag ophæng	Fitting for wall mounting
9022	3907048	Dæmpegummi f. støttebøjle	Damping rubber f. support bow
9023	7210509	Dobbelt stikterminal	Double connection terminal
9024	3340063	Pakning f. mellemtone-højttaler	Gasket for mid-range loudspeaker

Skrueoversigt
Survey of screws

1	2019011	Skrue 4 x 16	Screw 4 x 16
2	2019012	Skrue 4 x 50	Screw 4 x 50
3	2015113	Skrue 3,5 x 16	Screw 3.5 x 16
4	2013123	Skrue 3 x 10	Screw 3 x 10

Ikke viste dele
Parts not shown

2044015	Stilleskrue	Adjustment screw
3031116	Standard beslag	Standard mounting bracket
6270167	Ledning 4 m	Cable 4 m
3397587	Skumemballage sæt	Foam packing set
3391961	Yderæske	Outer carton
3390274	Pose f. højttaler	Bag for loudspeaker
3506111	Betjeningsanvisning	Owner's manual
3922020	Rock-woll klods 150 x 450 mm	Rock-wool block 150 x 450 mm
3922021	Rock-wool klods 75 x 450 mm	Rock-wool block 75 x 450 mm
3922026	Rock-wool klods 120 x 150 mm	Rock-wool block 120 x 150 mm
3922022	Rock-wool klods 75 x 200 mm	Rock-wool block 75 x 200 mm
3922027	Rock-wool klods 49 x 500 mm	Rock-wool block 49 x 500 mm

**I højttalere med apparat nr. før 3397001 bruges gummiklods pos. nr. 9006 efter 3397001 bruges beslag pos.nr. 9005.*

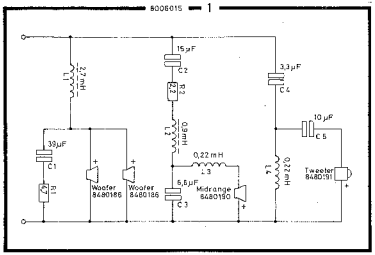
**In loudspeakers with serial no. before 3397001 rubber block pos. no. 9006 is used, after no. 3397001 fitting pos. no. 9005 is used.*

***I de første højttalere blev beslag nr. 3031125 brugt.*

***In the first loudspeakers fitting no. 3031125 was used.*

Bang&Olufsen

Diagram



Elektrisk stykliste
List of Electrical Parts

R1	5100310 4.7 Ω 10% 5W	R2	5100296 2.2 Ω 10% 7W

C1	4200673 39 µF 20% 35V	C4	4200125 3.3 µF 20% 23V
C2	4200456 15 µF 20% 35V	C5	4200337 10 µF 20% 23V
C3	4200457 6.8 µF 20% 35V		

For udskiftning af spoler L1 - L4 bestilles komplet delefilter.

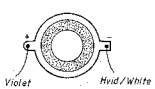
When replacing coils L1 - L4, order complete crossover network.

Technical specifications

RMS power handling capacity	140 watts
Music power handling capacity	200 watts
Impedance	8 ohms
Frequency range +4 -8 dB	40-20,000 Hz
Power at 96 dB SPL	2 watts
Sensitivity 1 W	93 dB
Distortion 250-1000 Hz	<0.7%
Distortion >1000 Hz	<0.5%
Accustic principle	Bass Reflex
Woofer	2 units 6½" - 16.5 cm
Midrange	5" - 13 cm
Tweeter	1" - 2.5 cm
Crossover frequency	800/3000 Hz
Net. volume	38 litres
Dimensions W x H x D	70 x 50 x 24 cm
Weight	15 kg

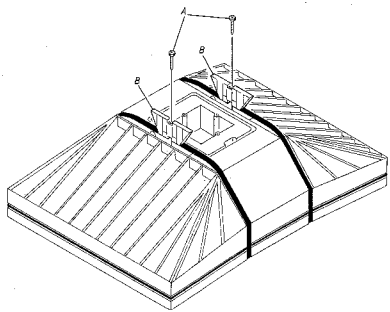
Subject to change without notice

Polaritet på diskanthøjttaler
Polarity on tweeter



Adskillelse

Disassembly



Aftag de to skruer A.

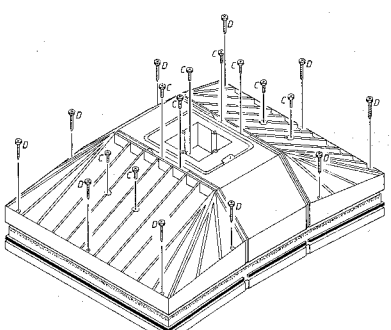
De to spændestykker B med pyntebånd kan nu aftages.

NB! Vær opmærksom på at det kun er det øverste bånd, der er forsynet med tekst, samt at teksten vendes korrekt ved samling af højttaleren igen.

Remove the two screws A.

The two triangles B with ribbon can now be removed.

NB! Note that only the upper ribbon is supplied with text, and make sure the text is turned correctly when re-assembling.



Aftag de ni skruer mærket C, og de ti skruer mærket D.

Bagparten kan nu tages af.

Ved samling af højttaleren igen anbefales et tilspændingsmoment på 16,5 kp/cm.

Remove the nine screws marked C and the ten screws marked D.

The rear part can now be removed.

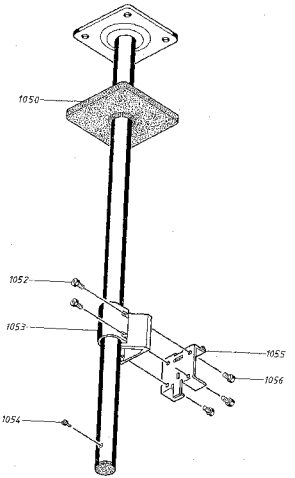
When re-assembling the loudspeaker, a torque of 16.5 kp/cm is recommended.

Bang&Olufsen

Oversigt over tilbehør til RL140
Survey of accessories for RL140

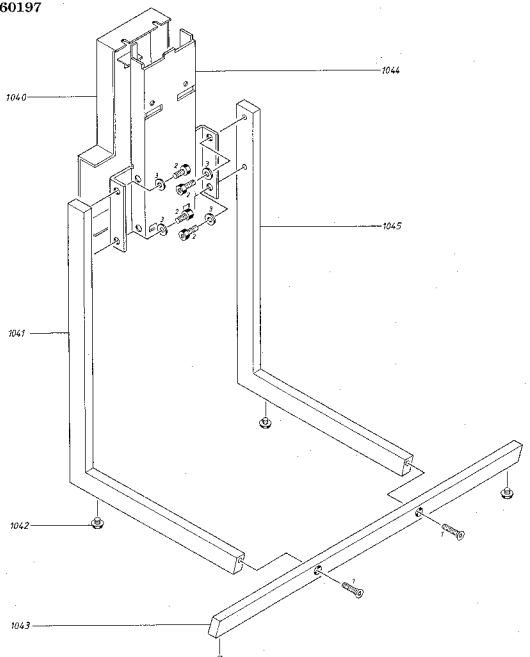
8960276	Spiraltledning	Red Line Cord
3124107	Opspændingsplade til lette skillevægge	Wall plate for light partition walls
8960230	Loftsøjle	Ceiling Bracket
8960197	Understel	Stand
8960216	Indstillelig vægbeslag	Wall Bracket
3390263	Pose m. dele til indstillelig vægbeslag	Bag w. parts for Wall Bracket

Loftssøjle, 8960230
Ceiling Bracket, 8960230



1050	3162224	Dæksel	Cover plate
1052	2044035	Skrue AM5x10	Screw AM5x10
1053	2644000	Spændestykke	Triangle with ribbon
1054	2042201	Skrue AM4x4	Screw AM4x4
1055	3031116	Standard beslag	Standard mounting bracket
1056	2044035	Skrue AM5x10	Screw AM5x10
	3390262	Pose m. dele	Bag w. parts
	3506105	*Monterings instruktion*	*Mounting instruction*

Understel, 8960197
Stand, 8960197

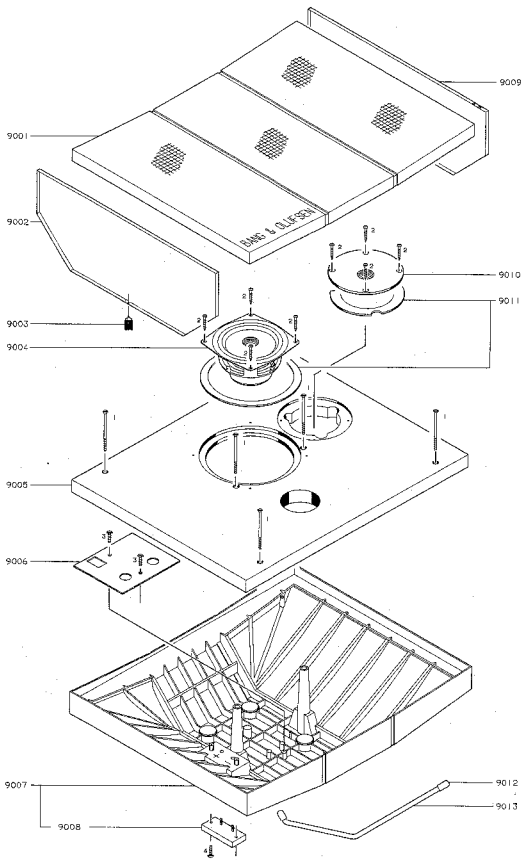


1040	3162227	Dækplade	Cover plate
1041	3930066	Endestykke, venstre	End piece, left
1042	3035049	Gummifod	Rubber foot
1043	2568811	Skinne	Bar
1044	3031131	Beslag	Mounting bracket
1045	3930065	Endestykke, højre	End piece, right
	2316007	Stilleskrue	Adjustment screw
	3031116	Standard beslag	Standard mounting bracket
	3390258	Pose m. dele	Bag w. parts
	2044029	Skrue M5x6	Screw M5x6
	3040016	Sekskantnøgle 4 mm	Hexagon spanner 4 mm
	3040020	Sekskantnøgle 2,5 mm	Hexagon spanner 2.5 mm
	3397565	Skumemballage	Foam packing
	3391964	Omslag	Wrapper
	3506087	Monterings instruktion	Mounting instruction

Skrueoversigt
Survey of screws

1	2042049	Skrue M4x16	Screw M4x16
2	2044012	Skrue M5x10	Screw M5x10
3	2622028	Skive	Washer

RL 35, TYPE 6515



List of Mechanical Parts

9001	3450698	Frame with cloth	9008	7210662	Double connection
9002	3940195	Ribbon without print			terminal
9003	2630025	Clamping pin	9009	3940197	Ribbon with print
9004	8480198	Woofer	9010	8480181	Tweeter
9005	3440103	Front frame with gasket	9011	3340050	Set of gaskets
	3947202	Gasket, by the meter	9012	3341063	Rubber foot
9006	8039076	Crossover network	9013	2514063	Support bow
9007	3414054	Cabinet			

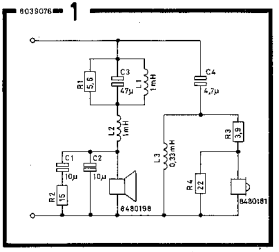
Survey of screws

1	2015112	Screw 3.5 x 50	3	2019009	Screw 3 x 12
2	2084046	Screw 3.5 x 25	4	2013123	Screw 3 x 10

Parts not shown

3390296	Bag	3922031	Damping material,	
3391888	Outer carton		small	
3397615	Foam packing, set	5270167	Cable 4 m	
3922030	Damping material, big	3506132	Owner's manual	

List of Electrical Parts



R1	5100297	5.6Ω 10% 3W	R3	5100295	3.9Ω 10% 3W
R2	5100200	15Ω 10% 3W	R4	5100196	22Ω 10% 3W

C1	4200337	10 µF 20% 23V	C3	4200729	47 µF 20% 23V
C2	4200337	10 µF 20% 23V	C4	4200387	4.7 µF 20% 23V

When replacing coils L1-L3, order complete crossover network.

Technical specifications

RMS power handling capacity	35 watts
Music power handling capacity	50 watts
Impedance	8 ohms
Frequency range +4 -8 dB	48-20,000 Hz
Power at 96 dB SPL	2.5 watts
Sensitivity 1 W	92 dB
Distortion 250-1000 Hz	<1%
Distortion >1000 Hz	<0.7%
Cabinet principle	Bass Reflex
Woofer	5" - 13 cm
Tweeter	3/4" - 1.8 cm
Crossover frequency	3500 Hz
Net. volume	10 litres
Dimensions W x H x D	40 x 32 x 12.5 cm
Weight	3.5 kg

Subject to change without notice

Bang&Olufsen

Beolab Penta

Type 6601, 6602, 6603,
6604, 6605

Beovox Penta

Type 6611

3538657 INDKLÆBES I SERVICEANVISNING BEOVOX4
TO PASTE INTO SERVICE MANUAL BEOVOX4

INDHOLD

Diagrammer 2-1
Halvlederoversigt 2-5
Elektrisk stykliste 2-8
Mekanisk stykliste 2-11
Justeringer 2-15
Tekniske specifikationer 2-15
Adskillelse 2-17
Servicetips 2-17
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Semi-conductors 2-5
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Adjustments 2-15
Technical specifications 2-15
Dismantling 2-17
Service tips 2-17
Insulation test 2-21

DIAGRAMFORKLARING

På diagrammet er der angivet typenumre på transistorer og IC'er i de tilfælde hvor typenummeret er entydigt for komponenters placering i kredsløbet – feks. TR20/BC 557B

Hvis positionsnummeret er efterfulgt af en stjerne **skal** reservedelsnummeret benyttes, da denne komponent er specielt udvalgt – feks. TR102*.

Koordinatsystem

De største printplader er forsynet med et koordinatsystem. Komponenterne på disse printplader er på diagrammet forsynet med en koordinatbetegnelse, som fortæller i hvilket felt på printpladen de er placeret (mindre skrifttype end positionsnummeret – feks. B3).

Ledningsforbindelser

Ledningsforbindelser på diagrammet er samlet i »bundter«. De enkelte ledninger er forsynet med koder, der fortæller hvortil de går.

INTERN FORBINDELSE
PÅ EN DIAGRAMSIDE

Interne forbindelser på en diagramside angives med et tal. Knækket på ledningen viser i hvilken retning den anden ende af ledningen findes.

EXPLANATION OF DIAGRAM

Type numbers of transistors and IC's have been indicated on the diagram in those cases where the type number is unambiguous for the position of the component in a circuitry – e.g. TR20/BC 557B.

If the position number is followed by an asterisk the spare part number **must be used** because this component has been expecially selected – e.g. TR102*.

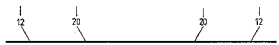
System of Co-ordinates

The largest PC-boards have been provided with a co-ordinate system. The components on these PC-boards are provided with a grid reference on the diagram indicating in what grid they are positioned on the PC-board (smaller typing than position numbers – e.g. B3).

Wiring Connections

The wiring connections on the diagram are assembled in »bundles«. The individual wires are coded to indicate to where they are leading.

INTERNAL CONNECTION
ON ONE DIAGRAM PAGE



Internal connections on a diagram page are indicated by a number. The bend of the wire indicates in which direction the other end of the wire may be found.

Forsyningsspændinger
En pil og spændingen viser, hvor forsyningsspændingerne går ind i et print.

Eksempel: (7 CON.) f.eks. ved siden af forsyningsspændingen angiver det antal stedet, spændingen går ind på denne diagramside.

Supply Voltage
An arrow and the voltage show where the supply voltages are fed to a PCB.

Example: (7 CON.) next to the supply voltage indicates the number of places where to find the voltages in this diagram.

Symbol for sikkerhedskomponenter

Ved udskiftning af komponenter med dette symbol skal der anvends komponenter med samme reservedelsnummer. Den nye komponent skal monteres på samme måde som den udskiftede.

Symbol for Safety Components

When replacing components with this symbol components with identical part numbers are to be used. The new component must be fitted in the same way as the one replaced.

MÅLEBETINGELSER
Alle DC spændinger er målt i forhold til stel, med voltmeter med en indgangsmodstand på 10 Mohm.

Spændingerne er målt uden signaltilføring.

MEASURING CONDITIONS
All DC voltages have been measured in relation to ground with voltmeter with an input resistance of 10 Mohms.

The voltages have been measured without any supply of signal.

DIAGRAM A, Display

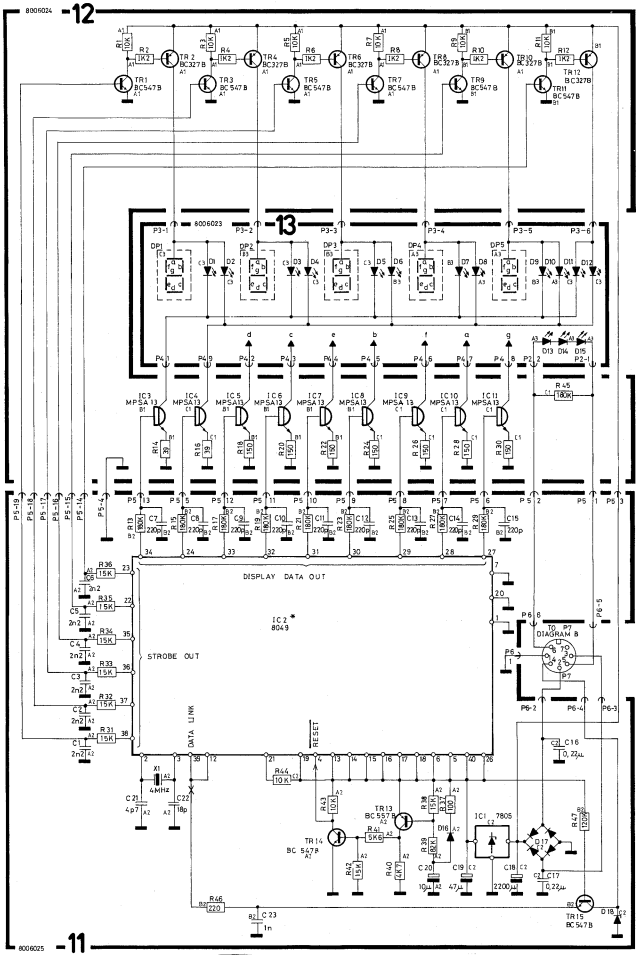
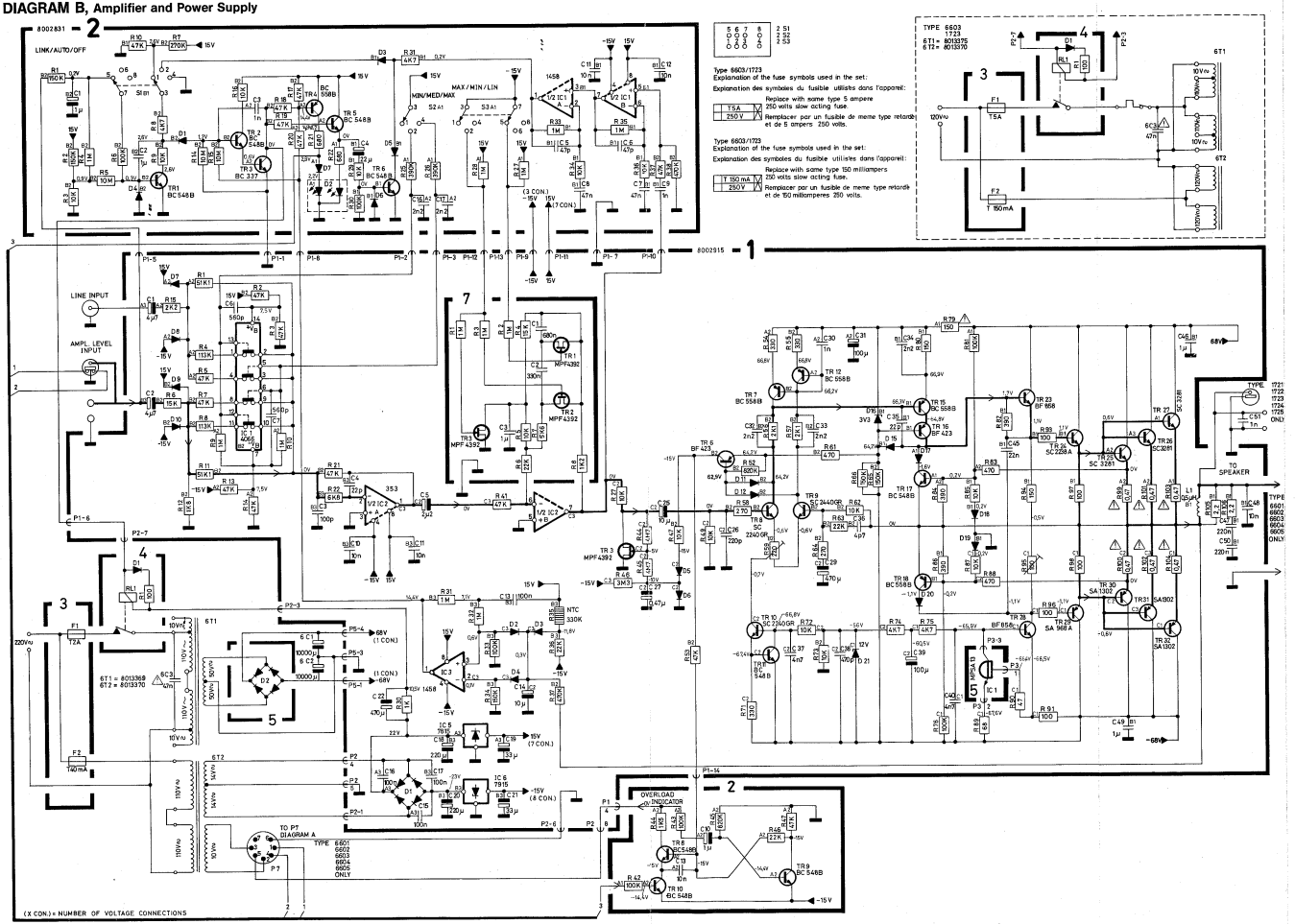
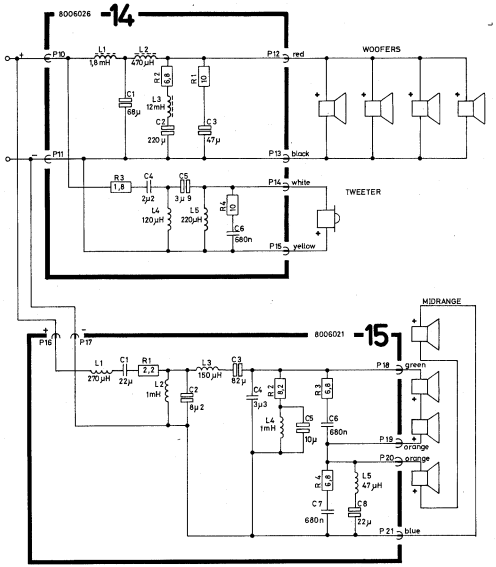


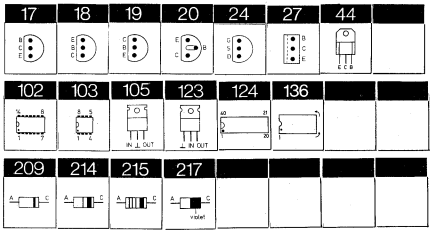
DIAGRAM B, Amplifier and Power Supply


8002831
8002915
LINK/AUTO/OFF
MAX/MIN/LIN
MIN/MED/MAX
LINE INPUT
AMPL. LEVEL INPUT
TO SPEAKER
OVERLOAD INDICATOR
TO P7 DIAGRAM A
TYPE 6501 6602 6603 6604 6605 ONLY
(X CON.) = NUMBER OF VOLTAGE CONNECTIONS
Type 6603/1723
Explanation of the fuse symbols used in the set:
Explanation des symboles du fusible utilisés dans l'appareil:
T5A 250 V
Replace with same type 5 ampere 250 volts slow acting fuse.
Remplacer par un fusible de meme type retardé et de 5 ampers 250 volts.
T 150 mA 250 V
Replace with same type 150 milliampers 250 volts slow acting fuse.
Remplacer par un fusible de meme type retardé et de 150 milliampers 250 volts.
TYPE 6603 1723
6T1 = 8013375
6T2 = 8013370

Crossover Network



SEMI CONDUCTORS



Transistors

1TR3	*△ 8320396	**24**	MPF 4392
		24	2N 4392
		24	2N 5639
1TR6	8320454	**17**	BF 423
1TR7	8320152	**20**	BC 212B/BK
		17	BC 212BL
		20	BC 251B
		18	BC 307B
		20	BC 557B
		27	2SA 844
1TR8- 1TR10	8320641		SC 2240 GR
1TR11	8320108	**20**	BC 172B
		20	BC 183B/BK
		17	BC 183BL
		20	BC 238B
		20	BC 548B
1TR12 1TR15	8320152	**20**	BC 212B/BK
		17	BC 212BL
		20	BC 251B
		18	BC 307B
		20	BC 557B
		27	2SA 844
1TR16	8320454	**17**	BF 423
1TR17	8320108	**20**	BC 172B
		20	BC 183B/BK
		17	BC 183BL
		20	BC 238B
		20	BC 548B
1TR18	8320152	**20**	BC 212B/BK
		17	BC 212BL
		20	BC 251B
		18	BC 307B
		20	BC 557B
		27	2SA 844
1TR23 1TR28	8320646	**44**	BF 858
2TR1	8320108	**20**	BC 172B
2TR2		**20**	BC 183B/BK
		17	BC 183BL
		20	BC 238B
		20	BC 548B
2TR3	8320595	**20**	BC 337-40
2TR4	8320152	**20**	BC 212B/BK
		17	BC 212BL
		20	BC 251B
		18	BC 307B
		20	BC 557B
		27	2SA 844
2TR5	8320108	**20**	BC 172B
2TR6		**20**	BC 183B/BK
2TR8-		**17**	BC 183BL
2TR10		**20**	BC 238B
		20	BC 548B
7TR1- 7TR3	*△ 8320396	**24**	MPF 4392
		24	2N 4392
		24	2N 5639
11TR13	8320152	**20**	BC 212B/BK
		17	BC 212BL
		20	BC 251B
		18	BC 307B
		20	BC 557B
		27	2SA 844
11TR14 11TR15	8320097	**20**	BC 182B/BK
		17	BC 182BL
		20	BC 237B
		20	BC 547B

12TR1	8320097	**20**	BC 182B/BK
		17	BC 182BL
		20	BC 237B
		20	BC 547B
12TR2	8320331	**20**	BC 328-25/18
12TR3	8320097	**20**	BC 182B/BK
		17	BC 182BL
		20	BC 237B
		20	BC 547B
12TR4	8320331	**20**	BC 328-25/18
12TR5	8320097	**20**	BC 182B/BK
		17	BC 182BL
		20	BC 237B
		20	BC 547B
12TR6	8320331	**20**	BC 328-25/18

12TR7	8320097	**20**	BC 182B/BK
		17	BC 182BL
		20	BC 237B
		20	BC 547B
12TR8	8320331	**20**	BC 328-25/18
12TR9	8320097	**20**	BC 182B/BK
		17	BC 182BL
		20	BC 237B
		20	BC 547B
12TR10	8320331	**20**	BC 328-25/18
12TR11	8320097	**20**	BC 182B/BK
		17	BC 182BL
		20	BC 237B
		20	BC 547B
12TR12	8320331	**20**	BC 328-25/18

IC's

1IC1	8340202	**102**	CD 4066 BCN
		102	HEF 4066 BP
		102	MC 14066 BCP
		102	MSM 4066 RS
1IC2	8340763	**136**	LF353-TL072
1IC3	8340048	**103**	MC 1458 CP1
		103	MC 1458 N
		103	MC 1458 P
		103	SFC 2458 DC
1IC5	8340064	**105**	UA 7815
		105	UA 7815 UC
		105	LM 340 T-15
1IC6	8340240	**123**	LM 320 T-15
		123	MC 7915 CT
		123	UA 7915 UC

2IC1	8340048	**103**	MC 1458 CP1
		103	MC 1458 N
		103	MC 1458 P
		103	SFC 2458 DC
5IC1	8340054	**19**	MPS A13
		19	TPS A13
11IC1	8340212	**105**	7805
11IC2	8340836	**124**	UP 8049
12IC3-	8340054	**19**	MPS A13
12IC11		**19**	TPS A13

Diodes

1D1	8300466		B125 C1500
1D2-	8300058	**217**	SFD 184
1D12		**209**	1N 4148
		215	1N 4148
1D15	8300409	**214**	BAV 20-25
1D16	8300541		Z 3V3
1D17-	8300058	**217**	SFD 184
1D20		**209**	1N 4148
		215	1N 4148

1D21	8300407	**209**	BZX79B 12
		209	BZX83B 12
		209	ZPD 12V
2D1	8300058	**217**	SFD 184
2D3-		**209**	1N 4148
2D7		**215**	1N 4148
4D1	8300058	**217**	SFD 184
		209	1N 4148
		215	1N 4148

5D2	8300497		KBU 6D
11D16	8300058	**217**	SFD 184
		209	1N 4148
		215	1N 4148
11D17	8300466		B125 C1500
11D18	8300407	**209**	BZX79B 12
		209	BZX83B 12
		209	ZPD 12V

13D1-13D15	8330162	LED yellow
13DP1-13DP5	8330163	*Display* 7-segm. yellow

△ betyder at statisk elektricitet kan ødelægge komponenten.
△ indicates that static electricity may destroy the component.
△ bedeutet, daß statische Elektrizität die Komponente zerstören kann.
△ signigi que électricité statique peut detruire le composant.

* Speciel udvalgt eller bearbejdet eksemplar.
* Specially selected or adapted sample.
* Speziell ausgewähltes und bearbeitets Exemplar.

LIST OF ELECTRICAL PARTS

Resistors not mentioned are standard resistors

Standard resistors:
Resistors 5% 1/2 W

	X1	X10	X100	X1K	X10K	X100K	X1M	X10M
1.0		5011000	5011013	5011028	5011044	5010313	5011069	5011083
1.2	5011406	5011001	5011014	5011030	5011045	5011058	5010421	
1.5	5010727	5011002	5011015	5011031	5011046	5011059	5011071	
1.8	5010857	5010787	5011016	5011033	5011047		5011072	
2.2	5011335	5010708	5010815	5011034	5011048	5011061	5011074	
2.7		5010803	5011018	5010055	5011049	5011062	5011075	
3.3	5010255	5011007	5011019	5011037		5011063	5010381	
3.9		5010782	5011021	5010700	5011051		5010392	
4.7	5010765	5011009	5011022	5010035	5010036	5011065	5011078	
5.6		5011010	5011023	5011041		5011066	5011079	
6.8	5010874	5011011	5011024	5011042	5010810	5011067	5011080	
8.2		5011012	5011026	5011043	5010038	5011068	5011081	

Resistors 5% 1/4 W

	X1	X10	X100	X1K	X10K	X100K	X1M	X10M
1.0	5010592	5010506	5010065	5010040	5010059	5010049	5010054	5010638
1.2		5010595	5010128	5010153	5010046	5010047	5010665	
1.5		5010468	5010057	5010247	5010053	5010063	5010093	
1.8		5010822	5010362	5010066	5010135	5010072	5010791	
2.2	5010682	5010448	5010092	5010064	5010079	5010120	5010245	
2.7	5010925	5010403	5010000	5010298	5010141	5010083	5010431	
3.3		5010253	5010044	5010076	5010075	5010117	5010848	
3.9		5010622	5010070	5010069	5010060	5010073	5010714	
4.7	5010888	5010411	5010058	5010048	5010045	5010077		
5.6	5010706	5010151	5010067	5010041	5010061	5010071	5010658	
6.8	5010904	5010039	5010144	5010052	5010062	5010074		
8.2	5010880	5010056	5010068	5010154	5010091	5010505		

Amplifier, 8002915, PCB 1

R1	5020363	51.1 kΩ 1% 1/4W	R79	5020633	150 Ω 5% 0.35W
R4	5020126	113 kΩ 1% 1/4W	R95	5370341	100 Ω 20% 0.1W
R8	5020126	113 kΩ 1% 1/4W	R99	5100203	0.47 Ω 10% 2W
R11	5020363	51.1 kΩ 1% 1/4W	R100	5100203	0.47 Ω 10% 2W
R35	5220036	330 kΩ 10% 1/2W	R101	5100203	0.47 Ω 10% 2W
R56	5020200	2.1 kΩ 1% 1/4W	R102	5100203	0.47 Ω 10% 2W
R57	5020200	2.1 kΩ 1% 1/4W	R103	5100203	0.47 Ω 10% 2W
R59	5370351	220 Ω 20% 0.1W	R104	5100203	0.47 Ω 10% 2W
R73	5020127	10 kΩ 5% 1W			

C1	4200477	4.7 µF 20% 25V	C26	4100234	220 pF 5% 63V
C2	4200477	4.7 µF 20% 25V	C27	4200476	0.47 µF 20% 50V
C3	4100232	100 pF 5% 63V	C29	4200665	470 µF 20% 6.3V
C4	4000136	22 pF 5% 63V	C30	4010027	1 nF 10% 63V
C5	4200423	2.2 µF 20% 50V	C31	4200552	100 µF 20% 100V
C6	4010064	560 pF 10% 63V	C32	4010061	2.2 nF 10% 63V
C7	4010064	560 pF 10% 63V	C33	4010061	2.2 nF 10% 63V
C10	4010041	10 nF -20+80% 40V	C34	4010061	2.2 nF 10% 63V
C11	4010041	10 nF -20+80% 40V	C35	4003059	22 pF 5% 500V
C13	4130179	100 nF 20% 63V	C36	4000020	4.7 pF 0.25 pF 63V
C14	4200431	10 µF 20% 16V	C37	4010063	4.7 nF 10% 63V
C15	4130179	100 nF 20% 63V	C38	4010024	470 pF 10% 63V
C16	4130179	100 nF 20% 63V	C39	4200478	100 µF 20% 10V
C17	4130179	100 nF 20% 63V	C40	4010063	4.7 nF 10% 63V
C18	4200311	220 µF -10+100% 40V	C45	4130195	22 nF 5% 250V
C19	4200509	33 µF 20% 25V	C46	4130155	1 µF 10% 100V
C20	4200311	220 µF -20+100% 40V	C47	4130308	220 nF 10% 63V
C21	4200509	33 µF 20% 25V	C48	4012002	10 nF -20+50% 400V
C22	4200704	470 µF 20% 25V	C49	4130155	1 µF 10% 100V
C25	4200431	10 µF 20% 16V	C50	4130308	220 nF 10% 63V

P1	7220143	Plug 14 pol.	P3	7220313	Plug 3 pol.
P2	7220203	Plug 10/9 pol.	P5	7220196	Plug 4/3 pol.

L1	6850114	Coil 0.5 µH			

Control, 8002831, PCB 2

C1	4200333	1 µF -10+50% 63V	C9	4010027	1 nF 10% 63V
C2	4130310	1 µF 10% 50V	C10	4200333	1 µF -10+50% 63V
C3	4010027	1 nF 10% 63V	C11	4010041	10 nF -20+80% 40V
C4	4200016	22 µF -10+50% 25V	C12	4010041	10 nF -20+80% 40V
C5	4000057	47 pF 5% 63V	C13	4010041	10 nF -20+80% 40V
C6	4000057	47 pF 5% 63V	C16	4010061	2.2 nF 10% 63V
C7	4130223	47 nF 10% 63V	C17	4010061	2.2 nF 10% 63V
C8	4130223	47 nF 10% 63V			

S1	7400350	Switch	S3	7400350	Switch
S2	7400350	Switch			

Fuses, 6271040, PCB 3 type 6601/02
Fuses, 6270343, PCB 3 type 6605

F1	6600009	Fuse 2A 250V
F2	6600070	Fuse 40MA 250V
	7200052	Fuse holder

Fuses, 6270342, PCB 3 type 6603/04

F1	6600019	Fuse 5A 250V
F2	6600069	Fuse 150MA 250V
	7200052	Fuse holder

Relay, 8002784, PCB 4

RL1	7600069	Relay
	3917109	Damping material

Signal level, 8002916, PCB 7

C1	4130311	680 nF 10% 63V	C3	4130310	1 µF 10% 50V
C2	4130309	330 nF 10% 63V			

P1	7220544	Plug 5 pol.			

Display control, 8006025, PCB 11

C1	4010061	2.2 nF 10% 63V	C13	4010155	220 pF 10% 63V
C2	4010061	2.2 nF 10% 63V	C14	4010021	220 pF 10% 63V
C3	4010061	2.2 nF 10% 63V	C15	4010155	220 pF 10% 63V
C4	4010061	2.2 nF 10% 63V	C16	4130215	220 nF 20% 63V
C5	4010061	2.2 nF 10% 63V	C17	4130215	220 nF 20% 63V
C6	4010061	2.2 nF 10% 63V	C18	4200667	2200 µF -20+50% 16V
C7	4010021	220 pF 10% 63V	C19	4200617	47 µF 20% 10V
C8	4010155	220 pF 10% 63V	C20	4200431	10 µF 20% 16V
C9	4010155	220 pF 10% 63V	C21	4000020	4.7 pF ± 0.25 pF 63V
C10	4010155	220 pF 10% 63V	C22	4000167	18 pF 5% 63V
C11	4010021	220 pF 10% 63V	C23	4010027	1 nF 10% 63V
C12	4010155	220 pF 10% 63V			

P5	7220508	Plug 19 pol.	P6	7220167	Plug 6 pol

X1	8090036	4 MHz			

Display drive, 8006024, PCB 12

P2	7210571	Socket 2 pol.	P4	7210284	Socket 9 pol.
P3	7210572	Socket 6 pol	P5	7210573	Socket 19 pol.

Display, 8006023, PCB 13

P2	7220505	Plug 2 pol.	P4	7220507	Plug 9 pol.
P3	7220506	Plug 6 pol.			

Crossover network, 8006026, PCB 14

R1	5100059	10 Ω 10% 9W	R3	5100235	1.8 Ω 10% 3W
R2	5100333	6.8 Ω 10% 17W	R4	5104009	10 Ω 10% 3W

C1	4200692	68 µF 10% 35V	C4	4130152	2.2 µF 10% 100V
C2	4200709	220 µF 20% 35V	C5	4130385	3.3 µF 10% 100V
C3	4200708	47 µF 10% 35V	C6	4130312	680 nF 10% 63V

L1	6850193	1.8 mH	L4	6850187	120 µH
L2	6850192	470 µH	L5	6850151	0.22 mH
L3	6850194	12 mH			

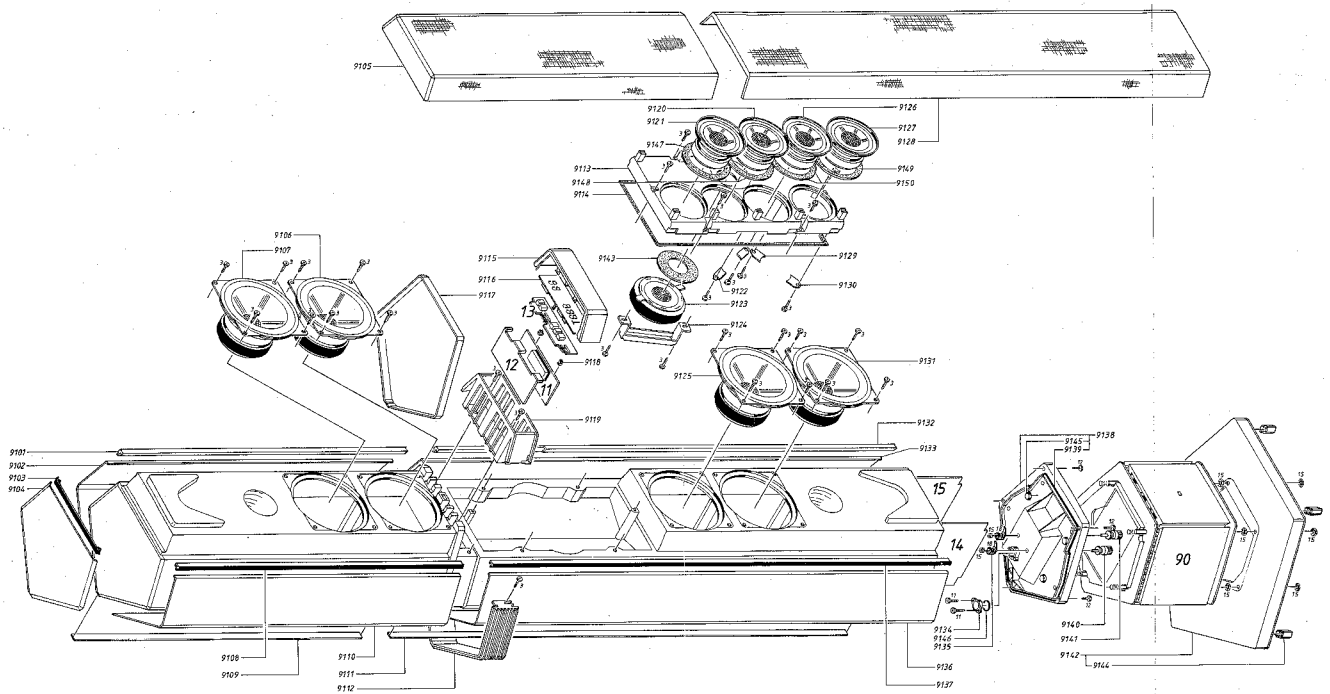
Crossover network, 8006021, PCB 15

R1	5100326	2.2 Ω 10% 9W	R3	5100242	6.8 Ω 5% 3W
R2	5100339	8.2 Ω 10% 7W	R4	5100242	6.8 Ω 5% 3W
C1	4200683	22 µF 10% 35V	C5	4200687	10 µF 10% 35V
C2	4200682	8.2 µF 10% 35V	C6	4130312	680 nF 10% 63V
C3	4200691	82 µF 15% 35V	C7	4130312	680 nF 10% 63V
C4	4130384	3.3 µF 10% 100V	C8	4200683	22 µF 10% 35V
L1	6850189	270 µH	L4	6850191	1 mH
L2	6850190	1 mH	L5	6850166	47 µH
L3	6850168	150 µH			

MEKANISK STYKLISTE
LIST OF MECHANICAL PARTS

9101	2560224	Pynteliste, lille	Decorative moulding, small
9102	3302407	Kabinetside og -liste, lille	Cabinet side and moulding, small
9103	2560219	Pynteliste, top	Decorative moulding, top
9104	3458407	Kabinettop	Cabinet top
9105	3450668	Stoframme, lille	Front panel, small
9106	8480197	Basshøjttaler	Woofer
9107	8480197	Basshøjttaler	Woofer
9108	2560224	Pynteliste, lille	Decorative moulding, small
9109	3452525	Kabinetliste, kort	Cabinet side, short
9110	3302407	Kabinetside og -liste, lille	Cabinet side and moulding, small
9111	3452524	Kabinetliste, lang	Cabinet moulding, long
9112	3444181	Gitter	Grill
9113	3440092	Baffel for mellemtone	Baffle for midrange
9114	3947202	Skumtape i metermål	Foam tape by the meter
9115	3320103	Dækglas for display, type 6611	Cover glass for display , type 6611
	3320099	Dækglas for display, type 660X	Cover glass for display , type 660X
9116	3131288	Hus for LED, type 660X	LED housing, type 660X
9117	3320100	Bånd	Frame
9118	2576050	Holder for PCB, type 660X	Holder for PCB, type 660X
9119	3132099	Skuffe for PCB	Tray for PCB
9120	8480196	Mellemtonehøjttaler	Midrange speaker
9121	8480196	Mellemtonehøjttaler	Midrange speaker
9122	2630024	Beslag for mellemtonehøjttaler	Fitting for midrange speaker
9123	8480206	Diskanthøjttaler	Tweeter
9124	3031125	Beslag for diskanthøjttaler	Fitting for tweeter
9125	8480197	Basshøjttaler	Woofer
9126	8480196	Mellemtonehøjttaler	Midrange speaker
9127	8480196	Mellemtonehøjttaler	Midrange speaker
9128	3450667	Stoframme, stor	Front panel, big
9129	2630024	Beslag for mellemtonehøjttaler	Fitting for midrange
9130	2630024	Beslag for mellemtonehøjttaler	Fitting for midrange
9131	8480197	Basshøjttaler	Woofer
9132	2560225	Pynteliste højre, stor	Decorative moulding right, big
9133	3302406	Kabinetside og -liste, stor	Cabinet side and moulding, big
9134	6275649	Ledningsbundt med DIN stik	Wire bundle
	7210608	Stikdåse 7 pol. DIN	Socket 7 pole DIN
9135	7500234	Stikben	Pin
9136	3302406	Kabinetside og -liste, stor	Cabinet side and moulding, big
9137	2560226	Pynteliste venstre, stor	Decorative moulding left, big
9138	3454478	Bund med tryk	Bottom with print
9139	3947202	Skumtape i metermål	Foam tape by the meter
9140	7210596	Bøsning, sort	Bushing, black
9141	7210595	Bøsning, rød	Bushing, red
9142	8860250	Glas soklet	Glass socket
9143	3340064	Pakning	Gasket
9144	3103224	Fod	Foot
9145	3103066	Gummifod	Rubber foot
9146	2732084	O-ring	O-ring
9147	3340070	Pakning for mellemtone	Gasket for midrange
9148	3340070	Pakning for mellemtone	Gasket for midrange
9149	3340070	Pakning for mellemtone	Gasket for midrange
9150	3340070	Pakning for mellemtone	Gasket for midrange

11	Modul 8006025	PCB Display control, type 660X	PCB Display control, type 660X
12	Modul 8006024	PCB Display drive, type 660X	PCB Display drive, type 660X
13	Modul 8006023	PCB Display, type 660X	PCB Display, type 660X
14	Modul 8006026	PCB Delefilter	PCB Crossover network
15	Modul 8006021	PCB Delefilter	PCB Crossover network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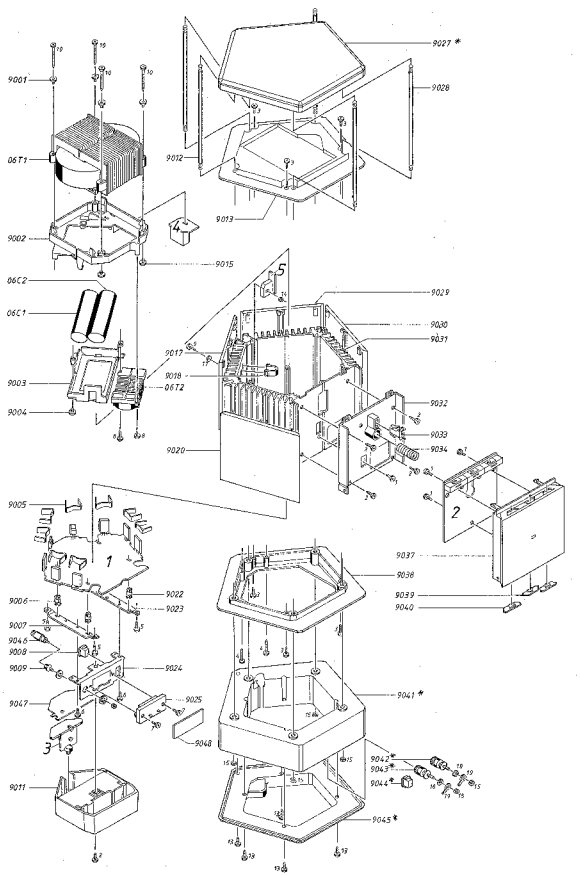
9001	2938154	Bøsning	Bushing
9002	3152455	Holder f. elektrolytter	Holder for electrolytes
9003	3164608	Låg f. elektrolytter	Cover for electrolytes
9004	2938154	Bøsning	Bushing
9005	2819157	Bøjle	Clamp
9006	3152063	Holder f. PCB 1	Holder for PCB 1
9007	2542669	Vinkel f. PCB 1	Bracket for PCB 1
	3947202	Skumtape i metermål, til vinkel	Foam tape by the meter, for bracket
9008	7210521	Stikdåse 4 pol.	Socket 4 pole
9009	7210567	Stikdåse phono	Phono socket
9011	3164627	Dæksel f. stikbrønd	Cover for socket
9012	2076007	Gevindstykke	Threaded piece
9013	3162266	Sammenspændingsstykke	Assembling piece
9015	2938154	Bøsning	Bushing
9017	3164643	Dækplade m. tryk, type 6601	Cover plate with print, type 6601
	3164642	Dækplade m. tryk, type 6602	Cover plate with print, type 6602
	3164640	Dækplade m. tryk, type 6603	Cover plate with print, type 6603
	3164641	Dækplade m. tryk, type 6604	Cover plate with print, type 6604
	3164639	Dækplade m. tryk, type 6605	Cover plate with print, type 6605
9018	3152507	Ledningsholder	Wire holder
9020	3164602	Dækplade	Cover plate
9022	3152063	Holder f. PCB 1	Holder for PCB 1
9023	2542669	Vinkel f. PCB 1	Bracket for PCB 1
	3947202	Skumtape i metermål, til vinkel	Foam tape by the meter, for bracket
9024	2542668	Vinkel f. stik	Bracket for socket
9025	7210509	Dobbelt stikterminal	Double socket terminal
9028	2076007	Gevindstykke	Threaded piece
9029	3164603	Dækplade	Cover plate
9030	3164602	Dækplade	Cover plate
9031	2568847	Køleprofil	Heat sink
9032	3452527	Bagstykke, betjening	Rear cover, control
9033	3034066	Lås f. låg	Lock for lid
9034	2812113	Trykfjeder	Pressure spring
9037	3168687	Betjeningspanel	Control panel
9038	3162268	Sammenspændingsstykke	Assembling piece
9039	2776037	Knap omskifter	Switch button
9040	2776037	Knap omskifter	Switch button
9046	7220591	Kortslutningsstik	Short-circuit plug
9047	3302426	Isolationsstykke	Insulation piece
	3947202	Skumtape i metermål, til isolationsstk.	Foam tape by the meter for insulation piece
9048	6141199	PCB for stikterminal	PCB for socket terminal
01 Modul	8002915	PCB forstærker	PCB amplifier
02 Modul	8002831	PCB betjening	PCB control
03 Modul	6271040	PCB sikringer, netledning type 6601/02	PCB fuses, mains lead type 6601/02
	6270342	PCB sikringer, netledning type 6603/04	PCB fuses, mains lead type 6603/04
	6270343	PCB sikringer, netledning type 6605	PCB fuses, mains lead type 6605
	7200052	Sikringsholdere	Fuse holders
04 Modul	8002784	PCB relæ	PCB relay
	3917109	Dæmpemateriale	Damping material
05 Modul	8002832	PCB netdel	PCB power supply unit
06T1	8013369	Transformator, type 6601/02/05	Transformer, type 6601/02/05
	8013375	Transformator, type 6603	Transformer, type 6603
	8013376	Transformator, type 6604	Transformer, type 6604
06T2	8013370	Transformator, type 6601/02/03/05	Transformer, type 6601/02/03/05
	8013377	Transformator, type 6604	Transformer, type 6604
06C1	4200653	10000 µF 20% 80V	10000 µF 20% 80V
06C2	4200653	10000 µF 20% 80V	10000 µF 20% 80V
	3917109	Dæmpemateriale	Damping material



*Kun i Beolab 150, type 172x

*Only in Beolab 150, type 172x

Ikke viste dele
Parts not shown

6270167	Ledning 4 m, type 6611	Cable 4 m, type 6611
3341059	Blændprop f. DIN stik, type 6611	Sealing plug for DIN socket, type 6611
6270336	4 m skærmet HT ledning 4 pol stik, 660X	4 m shielded loudspeaker cable 4 pole pin, type 660X
6270352	10 m skærmet HT ledning 4 pol stik, 660X	10 m shielded loudspeaker cable 4 pole pin, type 660X
3040026	Topnøgle, type 660X	Socket spanner
3922025	Dæmpemateriale, lille klods	Damping material, small block
3922024	Dæmpemateriale, stor klods	Damping material, big block
3946038	Folie i meter	Foil by the meter
3397604	Skumemballage f. glassokkel	Foam packing for glass socket
3397555	Skumemballage mellemstykker	Foam packing for spacers
3397554	Skumemballage endestykker	Foam packing for end pieces
3391838	Yderæske, type 660X	Outer carton, type 660X
3397601	Skumemballage til bund, type 660X	Foam packing for bottom, type 660X
3391974	Yderæske, type 6611	Outer carton, type 6611
3391975	Indlæg, type 6611	Insert, type 6611
3170169	Glimmerskive	Mica washer
6275627	Ledningsbundt m. DIN stik	Wire bundle with DIN Plug

Oversigt skruer, skiver m.m.
Survey of screws, washers etc.

1	2013208	Skrue M 2,9 x 9,5	Screw M 2.9 x 9.5
2	2039027	Skrue AM 3 x 6	Screw AM 3 x 6
3	2015088	Skrue M 3,5 x 16	Screw M 3.5 x 16
4	2015116	Skrue 3,5 x 25	Screw 3.5 x 25
5	2015201	Skrue M 3,5 x 9,5	Screw M 3.5 x 9.5
6	2039026	Skrue AM 3 x 4	Screw AM 3 x 4
7	2039028	Skrue AM 3 x 8	Screw AM 3 x 8
8	2015008	Skrue U 3,5 x 13	Screw U 3.5 x 13
9	2039014	Skrue AM 3 x 20	Screw AM 3 x 20
10	2015115	Skrue M-3,5-x-50	Screw-M-3.5-x-50
11	2013107	Skrue M 2,9 x 9,5	Screw M 2.9 x 9.5
12	2043016	Skrue AM 4 x 10	Screw AM 4 x 10
13	2013017	Skrue M 2,9 x 13	Screw M 2.9 x 13
14	2380011	Møtrik M3	Nut M3
15	2380016	Møtrik M4	Nut M4
17	2624013	Skive	Washer
18	2625003	Stjerneskive	Tooth lock washer
19	7530111	Loddeflig	Solder tag

JUSTERINGER

Tomgangsstrøm

Tomgangsstrøm justeres medens forstærkeren er kold og uden signal tilført.

Højttaler må ikke være tilsluttet.

DC millivoltmeter tilsluttes over 1R103/1R104.

1R95 justeres til 30 mV.

Offset

DC voltmeter tilsluttes højttalerudgangen.

1R59 justeres til 0 V.

ADJUSTMENTS

No-load current

Adjust the no-load current while the amplifier is cold and without any supply of signal.

The loudspeakers must not be connected to the amplifier.

Connect the DC millivoltmeter over 1R103/1R104.

Adjust 1R95 to 30 mV.

Offset

Connect the CD voltmeter to the loudspeaker output.

Adjust 1R59 to 0 V.

TECHNICAL SPECIFICATIONS

Type no.	6601/6602/6604/6605
Loudspeaker	
RMS power handling capacity	150 watts
Music power handling capacity	200 watts
Frequency range +4 -8 dB	40-20,000 Hz
Power at 96 dB SPL	2.5 watts
Sensitivity 1 W	92 dB
Distortion 250-1000 Hz	<0.5%
Distortion >1000 Hz	<0.5%
Cabinet principle	Bass reflex
Woofer	4 units 13 cm (5")
Midrange	4 units 8 cm (3")
Tweeter	2.5 cm (1")
Crossover frequency	700/5000 Hz 18 dB/octave
Net volume	32 litres
Power amplifier	
Power output 20-20,000 Hz IHF	1 x 150 watts/8 ohms
LINE input	80 mV/1 W, 1 V/150 W, 22 kohms,
	phono plugs
Power input	800 mV/1 W, 10 V/150 W, 15 kohms
	4-pin DIN or spring loaded contacts
Bass level switch	Linear, +3 dB/40 Hz, +6 dB/40 Hz
Sensitivity switch	0 dB, -3 dB, -6 dB
Power supply	6601: 220 V
	6602/6605: 240 V
	6603: 120 V
	6604: 100 V
Power frequency	50-60 Hz
Power consumption	Max. 300 watts
Stand-by	2 watts
Dimensions WxHxD	5-13.5 x 165 cm incl. stand
Weight	24 kg

Subject to change without notice

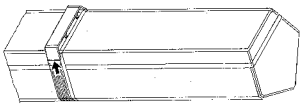
Type no.	6611
RMS power handling capacity	150 watts
Music power handling capacity	200 watts
Impedance	8 ohms
Frequency range +4 -8 dB	40-20,000 Hz
Power at 96 dB SPL	2.5 watts
Sensitivity 1 W	92 dB
Distortion 250-1000 Hz	<0.5%
Distortion >1000 Hz	<0.5%
Cabinet principle	Bass reflex
Woofer	4 units 13 cm (5")
Midrange	4 units 8 cm (3")
Tweeter	2.5 cm (1")
Crossover frequency	700/5000 Hz 18 dB/octave
Net volume	32 litres
Dimensions WxHxD	5-13.5 cm x 150 cm incl. stand
Weight	17 kg

Subject to change without notice

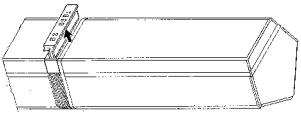
Sensitivity switch	Input for 150 W output	Amplifier for 4 ohms output	Amplifier for 8 ohms output
MAX.	10 V	– 25 W	– 12 W
MED.	14.1 V	25 W – 50 W	12 W – 25 W
MIN.	20 V	50 W – 100 W	25 W – 50 W

ADSKILLELSE

Display



Dækslet afmonteres ved at rykke i pilens retning.



Displayenheden er nu tilgængelig, og kan løftes ud i serviceposition.

DISMANTLING

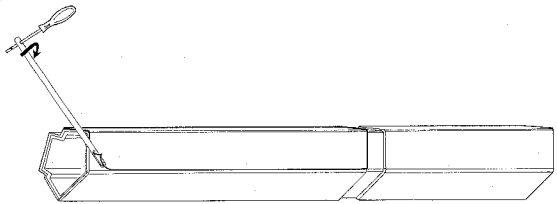
Display

Dismantle the cover by pulling it in the direction indicated by the arrow.

The display unit is now accessible and free to be lifted up in service position.

SERVICETIPS

Udskiftning af aluminiumsfolie



Aluminiumsfolien løsnes forsigtig i et hjørne.

Hjælpeværktøj bestillingsnr. 3629116 benyttes som vist på tegningen.

SERVICE TIPS

Replacement of aluminium foil

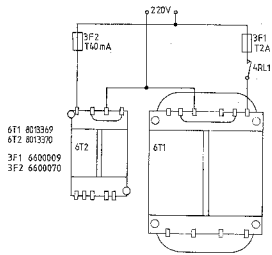
Loosen the aluminium foil carefully in one corner.

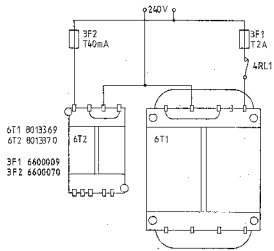
Use the auxiliary tool, part no 3629116 as shown on the drawing.

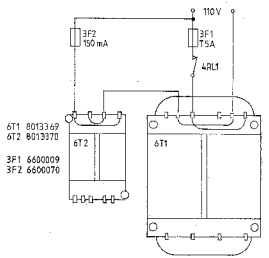
Ledningsmontering på nettransformatorer

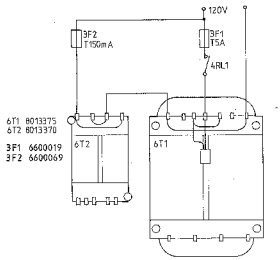
Wiring of Mains Transformers

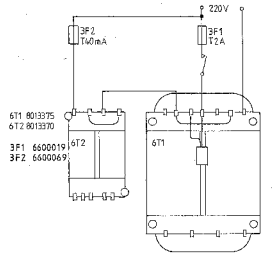
Type 6601
Type 6602
Type 6605

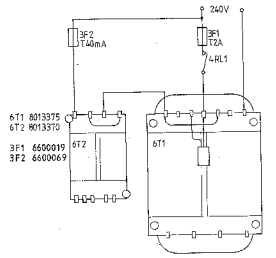


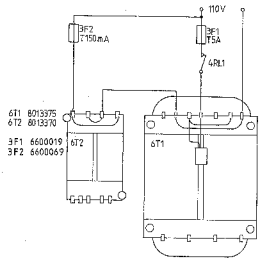




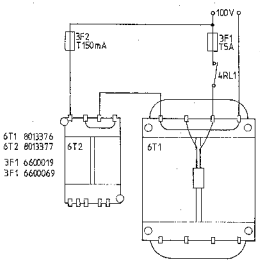

120V
3F2
T150mA
3F1
T1A
4RL1
6T1 8013375
6T2 8013370
3F1 6600019
3F2 6600069
6T2
6T1


220V
3F2
T40mA
3F1
T2A
6T1 8013375
6T2 8013370
3F1 6600019
3F2 6600069
6T2
6T1


240V
3F2
T40mA
3F1
T2A
4RL1
6T1 8013375
6T2 8013370
3F1 6600019
3F2 6600069
6T2
6T1


110V
3F2
T150mA
3F1
T5A
4RL1
6T1 8013375
6T2 8013370
3F1 6600019
3F2 6600069
6T2
6T1

Type 6604


100V
3F2
T150mA
3F1
T5A
4RL1
6T1 8013376
6T2 8013377
3F1 6600019
3F1 6600069
6T2
6T1

ISOLATIONSTEST
Ethvert apparat skal isolationstestes efter at det har været adskilt. Testen udføres når apparatet igen er helt samlet og klar til udlevering til kunden.

Isolationstesten udføres på følgende måde:
De to stikben på netstikket kortsluttes og tilsluttes en af terminalerne på isolationstesteren. Den anden terminal fra isolationstesteren tilsluttes den sorte klembøsning i AMP LEVEL INPUT.

OBS!
For at undgå beskadigelser på apparatet er det vigtigt, at begge terminaler fra isolationstesteren har virkelig god mekanisk kontakt.

Der drejes nu langsomt med spændingsreguleringen på isolationstesteren indtil en spænding på 1,5 - 2 kV er opnået. Her skal den holdes i 1 sekund, derefter drejes der langsomt ned for spændingen igen.

Der må ikke på noget tidspunkt under testen forekomme overslag.

INSULATION TEST
Earch set must be insulation tested after dismantling.The test is to be performed when the set has been reassembled and is ready for delivery to the customer.

Make the insulation test as follows:
Short-circuit the two plug pins of the mains plug and connect one of the terminals of the insulation tester. Connect the other terminal of the insulation tester to the black spring loaded contact marked AMP LEVEL INPUT.

N.B.!
To avoid ruining the set, it is essential that both insulator test terminals are in really good mechanical contact.

Now turn slowly the voltage control of the insulation tester until a voltage of 1.5 - 2 kV is obtained. Hold it there for 1 second, then turn slowly the voltage down again.

At no point during the testing procedure any flash-overs are permissible.

Samleinstruktion for Beovox Penta type 6611 med Beolab 150 type 172x

Instructions for assembly of Beovox Penta type 6611 and Beolab 150 type 172x

På Beovox Penta afmonteres glasfoden pos. nr. 9142, ved at skrue de 5 skruer A ud, iflg. fig. 1.

Remove the glass base of the Beovox Penta, pos. no. 9142, by removing the 5 screws A, according to Fig. 1.

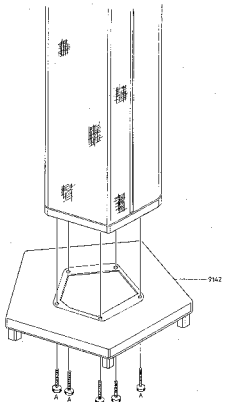


FIG. 1

På Beolab 150 skrues bunden pos. nr. 9045 af, ved at fjerne de 5 skruer B, iflg. fig. 2.
Mellemstykket pos. nr. 9041 frigøres, ved at afmontere de 5 møtrikker C, hvorefter ledningen der forbinder mellemstykket med forstærkerenheden, klippes af 2 cm over forstærkerenheden, iflg. fig. 2.
Den afklippede ledning isoleres og placeres ved siden af stikbrønden på forstærkerenheden.

Remove the base of the Beolab 150, pos. no. 9045, by removing the 5 screws B, acording to Fig. 2.
Lift off the intermediate piece, pos. no. 9041, by removing the 5 nuts C, and then cut off the wire connecting the intermediate piece to the amplifier unit 2 cm above the amplifier unit, according to Fig. 2.
Insulate the cut wire, and position it next to the recess with the sockets on the amplifier unit.

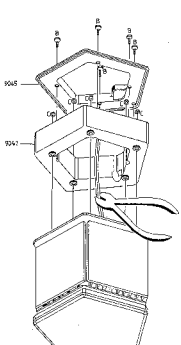


FIG. 2

Paste into service manual Beovox Á 3538615

Forstærkerenheden vendes og låget pos. nr. 9027 løftes af iflg. fig. 3.

Turn the amplifier unit, and lift off the lid, pos. no. 9027, according to Fig. 3.

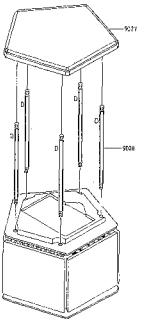


FIG. 3

De 5 stavbolte D afmonteres låget og monteres i bunden op Beovox Penta istedet, iflg. fig. 4.

Remove the 5 bolts D from the lid and mount them in the base of the Beovox Penta instead, according to Fig. 4.

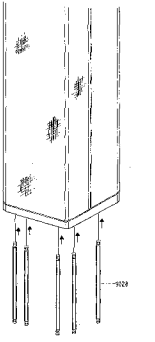


FIG. 4

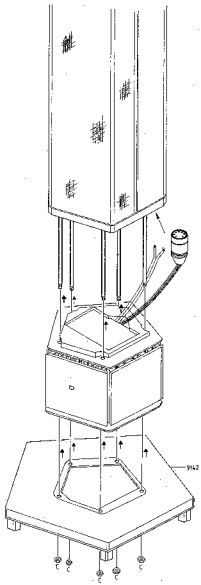


FIG. 5

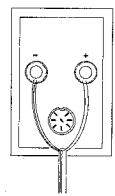


FIG. 6

På disse stavbolte placeres den ændrede Beolab 150 således, at forsiden af Beolab 150 og Beovox Penta vender samme vej, iflg. fig. 5.

Isoleringen på HT-ledningen fra Beolab 150 fjernes, og ledningerne monteres på Beovox Penta med den mærkede ledning til -, iflg. fig. 6.

Proppen over DIN-bøsnsingen i Beovox Penta fjernes, og DIN-stikket fra Beolab 150 monteres.
De 2 enheder kan nu skrues sammen, ved at montere glasfoden nedenunder den ændrede Beolab 150, og derefter montere de 5 møtrikker C, iflg. fig. 5.

Position the modified Beolab 150 on these rod bolts so that the front of the Beolab 150 and of the Beovox Penta face the same way, according to Fig. 5.

Remove the insulation on the speaker wire from the Beolab 150, and connect the wires to the Beovox Penta. Connect the marked wire to -, according to Fig. 6.

Remove the cap on the DIN socket in the Beovox Penta and mount the DIN plug from the Beolab 150 in that socket.
The two units by placing the glass base underneath the modified Beolab 150 and then screwing on the 5 nuts C, according to Fig. 5.

ISOLATIONSTEST
Ethvert apparat skal isolationstestes efter at det har været adskilt. Testen udføres når apparatet igen er helt samlet og klar til udlevering til kunden.

Isolationstesten udføres på følgende måde:
De to stikben på netstikket kortsluttes og tilsluttes en af terminalerne på isolationstesteren. Den anden terminal fra isolationstesteren tilsluttes den sorte klembøsning i AMP LEVEL INPUT.

OBS!
For at undgå beskadigelser på apparatet er det vigtigt, at begge terminaler fra isolationstesteren har virkelig god mekanisk kontakt.

Der drejes nu langsomt med spændingsreguleringen på isolationstesteren indtil en spænding på 1,5 - 2 kV er opnået. Her skal den holdes i 1 sekund, derefter drejes der langsomt ned for spændingen igen.

Der må ikke på noget tidspunkt under testen forekomme overslag.

INSULATION TEST
Earch set must be insulation tested after dismantling.The test is to be performed when the set has been reassembled and is ready for delivery to the customer.

Make the insulation test as follows:
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N.B.!
To avoid ruining the set, it is essential that both insulator test terminals are in really good mechanical contact.

Now turn slowly the voltage control of the insulation tester until a voltage of 1.5 - 2 kV is obtained. Hold it there for 1 second, then turn slowly the voltage down again.

At no point during the testing procedure any flash-overs are permissible.

Bang & Olufsen

To paste on page [illegible]
in supplement Beolab Penta
type 662X (3538730) for Beolab 200

9017	3164745	Cover plate w/print
9027	3458492	Lid
9041	3454443	Intermediate piece
9042	7210595	Terminal Screw, red
	7210596	Terminal Screw, black
9043	7210595	Terminal Screw, red
	7210596	Terminal Screw, black
9044	7211047	Socket
9045	3454444	Base

Survey of screws

15	2380016	Nut M4
18	2625003	Washer
19	7530091	Soldering lug

Beolab Penta

Type 6631, 6632, 6633, 6634, 6635

SERVICEANVISNING
SERVICE MANUAL

09-91 3538732 INDKLÆBES I SERVICEANVISNING BEOVOX 4
TO PASTE INTO SERVICE MANUAL BEOVOX 4

Bang&Olufsen

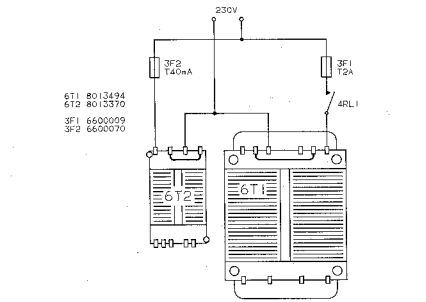
Ledningsmontering på nettransformatorer

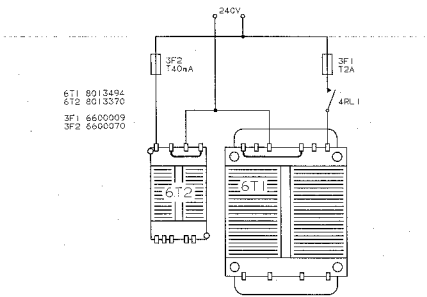
Wiring of Mains Transformers

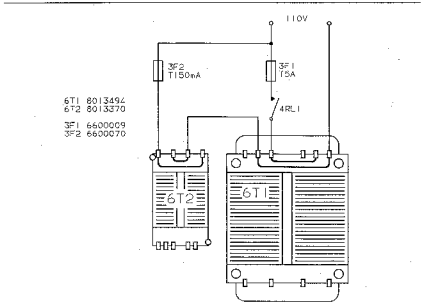
Type 6631

Type 6632

Type 6635



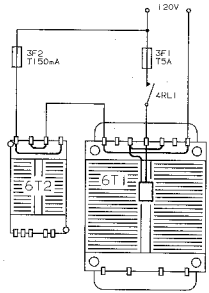




Type 6633

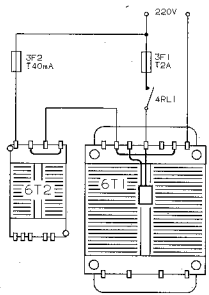
6T1 8013375
6T2 8013370

3F1 6600019
3F2 6600069



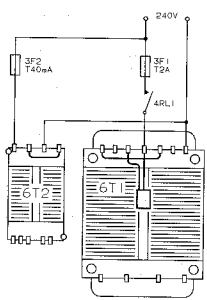
6T1 8013375
6T2 8013370

3F1 6600009
3F2 6600070



6T1 8013375
6T2 80.3370

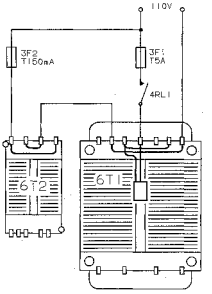
3F1 6600009
3F2 6600070



Type 6633

6T1 8013375
6T2 8013370

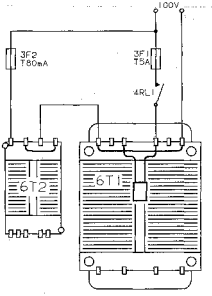
3F1 6600019
3F2 6600069



Type 6634

6T1 8013376
6T2 8013377

3F1 6600095
3F2 6600103



PCB 23, Microcomputer

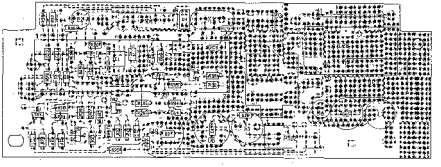
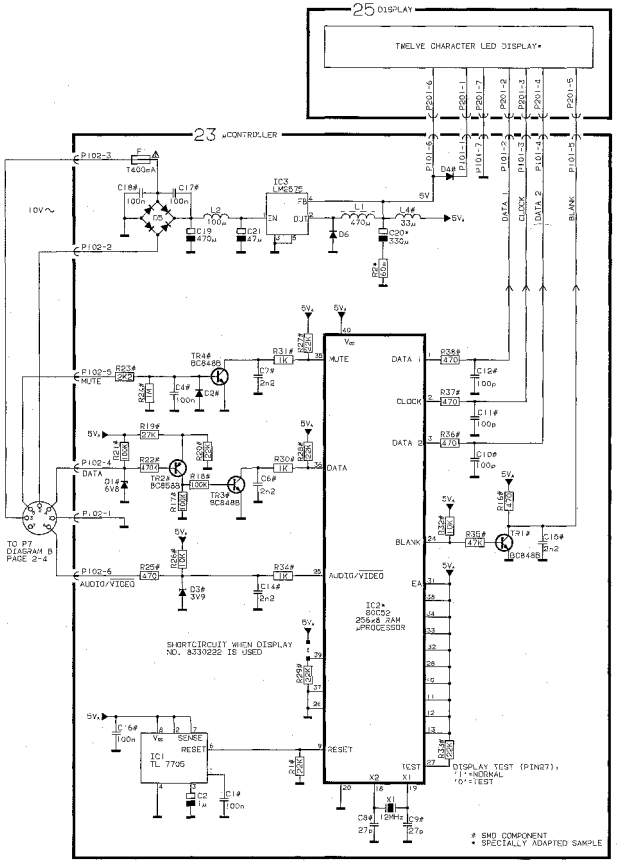


DIAGRAM A, Display 663X



LIST OF ELECTRICAL PARTS

51	124	143	156	209	250		

Resistors not referred to are standard, see page 3-4
Δ Indicates that static electricity may destroy the component
* Specially selected or adapted sample

PCB23, 8001443
Microprocessor

IC1	8341612	**156**	TL 7705	IC3	8341770	**143**	LM 2575
IC2Δ*	8341771	**124**	μP 80C52				
TR1	8320615	**051**	BC 848B	TR3-	8320615	**051**	BC 848B
TR2	8320616	**051**	BC 858B	TR4			
D1	8300520	**250**	Z 6.8V 5%	D4	8300557	**250**	BYM10
D2	8300482	**250**	LL 4148	D5	8300466		125V 1.5A
D3	8300577	**250**	Z 3.9V 2%	D6	8300795	**209**	1N 5822
R2*	5012142		60 mΩ				
C1	4010166		100nF -20+80% 50V	C14-	4010170		2.2nF 10% 50V
C2	4200512		1μF 20% 50V	C15			
C4	4010166		100nF -20+80% 50V	C16-	4010166		100nF -20+80% 50V
C6-	4010170		2.2nF 10% 50V	C18			
C7				C19	4200993		470μF 20% 50V
C8-	4000278		27pF 5% 50V	C20*	4201116		330μF 20% 25V
C9				C21	4200952		47μF -20+50% 25V
C10-	4000241		100pF 5% 50V				
C12							
L1	8020914		Coil 470μH	L4	8020817		Coil 33μH
L2	8020912		Coil 100μH				
X1	8090075		Crystal 12MHz				
F1	6600080		Fuse 400mAT				
P101	7220714		Plug 7 pole	P102	7220318		Plug 6 pole

All other electrical parts are identical with chapter 3 for 662x (3538730)

LIST OF MECHANICAL PARTS

Ex. view, see page 4-2

9115	3320103	Cover glass f. display
9151	3183673	Masking f. display
23Modul	8001443	PCB23, Microcomputer
25Modul	8001485	PCB25, Display (3x4 character)
	2576275	Holder
	8330222	PCB25, Display (2x6 character)

Ex. view, see page 4-3

9017	3164800	Coverplate w. print, type 6631
	3164865	Coverplate w. print, type 6632
	3164890	Coverplate w. print, type 6633
	3164891	Coverplate w. print, type 6634
	3164892	Coverplate w. print, type 6635
06T1	8013494	Transformer, type 6631 (230 EU)
	8013494	Transformer, type 6632, 6635 (240 GB/AUS)
	8013375	Transformer, type 6633 (120 USA)
	8013376	Transformer, type 6634 (110 JAP)

Owners Manuals

	3506179	Danish
	3506180	Swedish
	3506181	Finnish
	3506182	English
	3506183	German
	3506184	Dutch
	3506185	French
	3506186	Italian
	3506187	Spanish

All other mechanical parts are identical with chapter 4 for 662x (3538730)

Bang & Olufsen

Beolab Penta

Type 6621, 6622, 6623, 6624, 6625

3538730 12-88 INDKLÆBES I SERVICEANVISNINGEN BEOVOX 4
TO PASTE INTO SERVICE MANUAL BEOVOX 4

Bang & Olufsen

TECHNICAL SPECIFICATIONS	BEOLAB PENTA
Type	6621, 6622, 6623, 6624, 6625
Speaker:	
Long-term maximum power IEC	320 watts
Maximum noise power IEC	150 watts
Impedance	8 ohms
Frequency range +4/-8 dB	40-20,000 Hz
Power at 96 dB SPL (1 m)	2.5 watts
Sensitivity 1 W (1 m)	92 dB
Distortion 0.250 - 6 kHz	<0.5 %
Cabinet principle	Bass Reflex
Woofer	4 units 13 cm (5")
Mid-range	4 units 8 cm (3")
Tweeter	2.5 cm (1")
Crossover frequency	700/5000 Hz
Net cabinet volume	32 litres
Power amplifier:	
Long-term maximum power IEC	300 watts
RMS DIN	175 watts
IHF	150 watts
Total harmonic distortion IHF	<0.015 %
Intermodulation IHF	<0.02 %
Dynamic headroom	>1.5 dB
Input sensitivity/impedance:	
POWER LINK sockets	1 V/>25 kohms
- channel separation	>70 dB
SPEAKER LINK socket	11 V/>15 kohms
LINE IN socket	1 V/>25 kohms
BASS EXTENSION switch	0 dB, +3 dB, + 6 dB
INPUT LEVEL switch	0 dB, -3 dB, -6 dB
Dynamic Clipping Attenuator	Automatic
Power consumption	Max. 300 watts
Stand-by	2 watts
Dimensions W x H x D	22 x 165 x 20.5 cm
Dimensions, Stand	35.5 x 4 x 34 cm
Weight	24 kg

Subject to change without notice

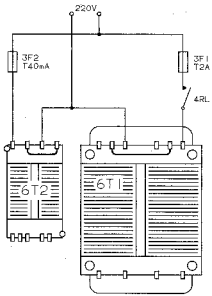
Ledningsmontering på nettransformatorer

Wiring of Mains Transformers

Type 6621

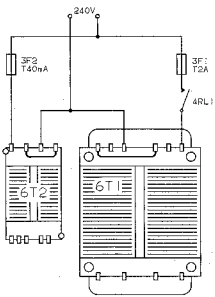
Type 6622

Type 6625



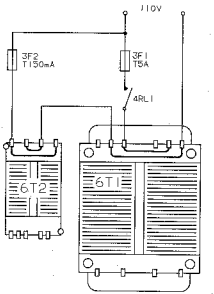
6T1 8013369
6T2 8013370

3F1 6600009
3F2 6600070



6T1 8013369
6T2 8013370

3F1 6600009
3F2 6600070



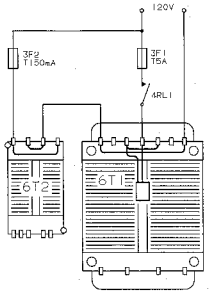
6T1 8013369
6T2 8013370

3F1 6600019
3F2 6600069

Type 6623

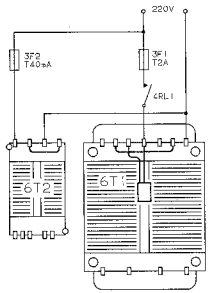
6T1 8013375
6T2 8013370

3F1 6600019
3F2 6600069



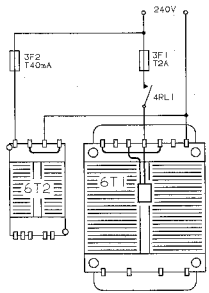
6T1 8013375
6T2 8013370

3F1 6600009
3F2 6600070

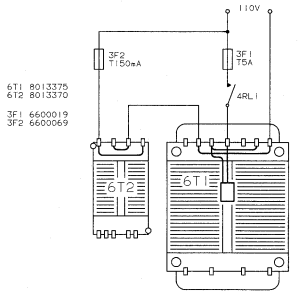


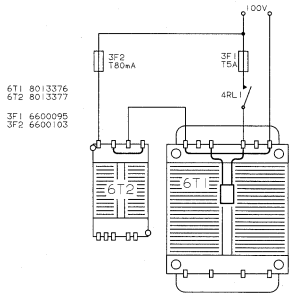
6T1 8013375
6T2 8013370

3F1 6600009
3F2 6600070



Type 6624





DIAGRAMFORKLARING

På diagrammerne er der angivet typenumre på transistorer og IC'er. Hvis positionsnummeret er efterfulgt af en stjerne, skal reservedelsnummeret altid benyttes, da denne komponent er specielt udvalgt, f.eks. TR102*.

Komponenttryk og koordinatsystem

De største printplader er forsynet med komponenttryk og et koordinatsystem på både print- og komponentside.
På diagrammerne er enhver komponent forsynet med et koordinatnummer. Dette fortæller i hvilket koordinat på printpladen, komponenten er placeret. Koordinatnumrene er angivet med mindre skrifttype end positionsnumrene.

Styrekredsløb

I visse styrekredsløb er den aktive tilstand angivet med en funktions- eller bogstavsangivelse. Denne kan eksempelvis være $\overline{\text{ST.BY.}}$ = »low« i stand-by-stilling eller ST.BY. = »high« i stand-by-stilling.

Ledningsforbindelser

Ledningsforbindelserne på diagrammerne er samlet i »bundter«. De enkelte ledninger er forsynet med en af følgende koder:

INTERN FORBINDELSE PÅ EN DIAGRAMSIDE

Interne forbindelser på en diagramside angives med et tal. Knækket på ledningen viser, i hvilken retning, den anden ende af ledningen findes.

FORBINDELSE TIL EN ANDEN DIAGRAMSIDE

Forbindelsen til en anden diagramside angives med et tal samt et bogstav for det diagram, forbindelsen går til.

Forsyningsspændinger

Alle forsyningsspændinger i diagrammerne er angivet med en pil og en spændingsangivelse.

Eksempel:
Ved siden af spændingsangivelsen står der f.eks. 7 CON. Dette betyder, at den pågældende forsyningsspænding går til 7 steder på den pågældende diagramside (7 CON. = 7 connections).

EXPLANATION OF DIAGRAM

Type numbers of transistors and ICs are indicated on the diagrams.
If the position number is followed by an asterisk the spare part number must always be used because the component in question has been specially selected, e.g. TR102*.

Component print and coordinate system

The largest PCBs have component prints and a coordinate system on both the print and the component side.
On the diagrams every component has a coordinate number. This indicates in which coordinate on the PCB the component is situated. The coordinate numbers are written in smaller print types than the position numbers.

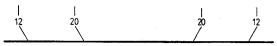
Control Circuit

In certain control circuits the active mode is indicated by a function term or by an abbreviation. This may be e.g. $\overline{\text{ST.BY.}}$ = low in the stand-by mode or ST.BY. = high in the stand-by mode.

Wiring Connections

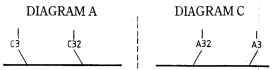
The wiring connections on the diagrams are assembled in 'bundles'. The individual wires are provided with one of the following codes:

INTERNAL CONNECTION ON ONE DIAGRAM PAGE



Internal connections on a diagram page are indicated by a number. The bend of the wire indicates in which direction the other end of the wire is found.

CONNECTION TO ANOTHER DIAGRAM PAGE



A connection to another diagram page is indicated by a number as well as by a letter of the diagram to which the connection leads.

Supply Voltages

All supply voltages in the diagrams are indicated by an arrow and a voltage indication.

Example:
"7 CON.". This means that the supply voltage in question goes to 7 different places on the diagram page in question (7 CON = 7 connections).

2-2

2-2

SYMBOL FOR SIKKERHEDSKOMPONENTER

Ved udskiftning af komponenter med dette symbol skal der anvendes komponenter med samme reservedelsnummer. Den nye komponent skal monteres på samme måde som den udskiftede.

SYMBOL OF SAFETY COMPONENTS

When replacing components with this symbol, components with identical part numbers must be used. The new component must be mounted in the same way as the one replaced.

MÅLEBETINGELSER

Alle DC-spændinger er målt i forhold til stel med et voltmeter med en indgangsmodstand på 10 Mohm.

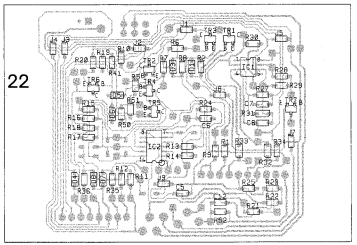
DC-spændingerne er opgivet i volt (V), f.eks. 0,7 V.

MEASURING CONDITIONS

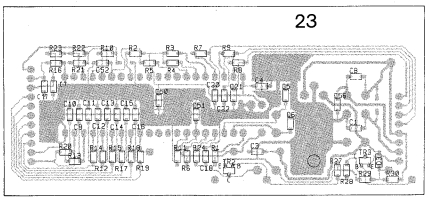
All DC voltages have been measured in relation to ground with a voltmeter with an input resistance of 10 Mohms.

The DC voltages are stated in volts (V), e.g. 0.7 V.

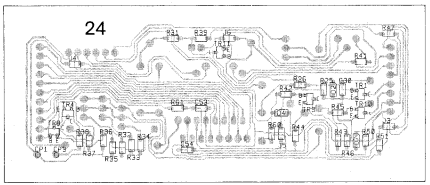
PCB 22, Input Control



PCB 23, Microcomputer



PCB 24, Display Drive



Crossover Network

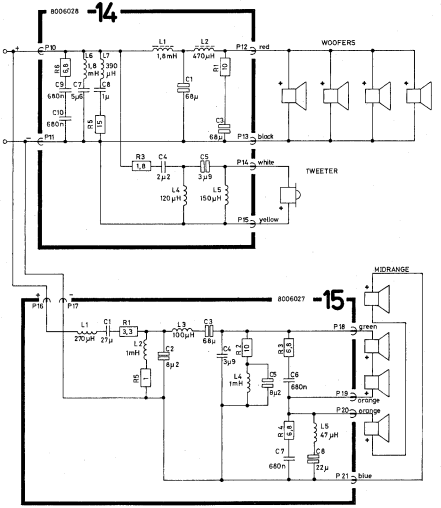


DIAGRAM A, Display

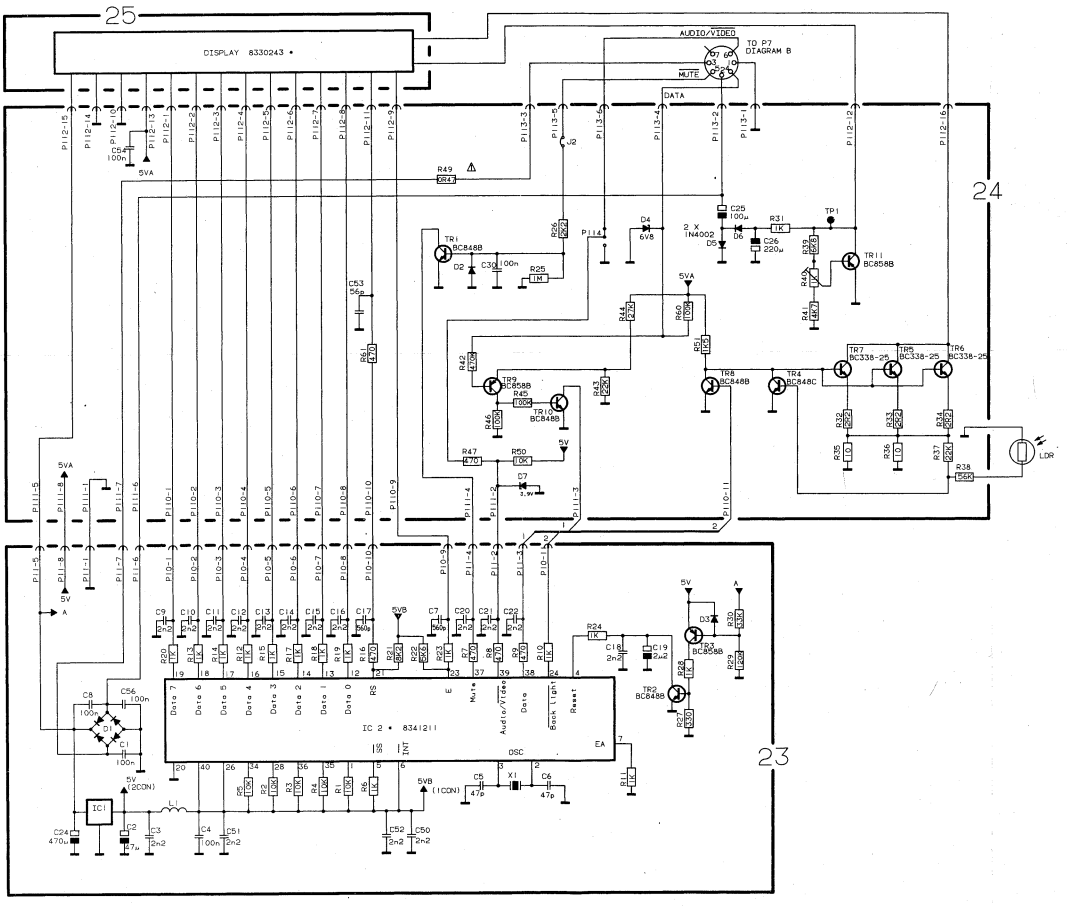
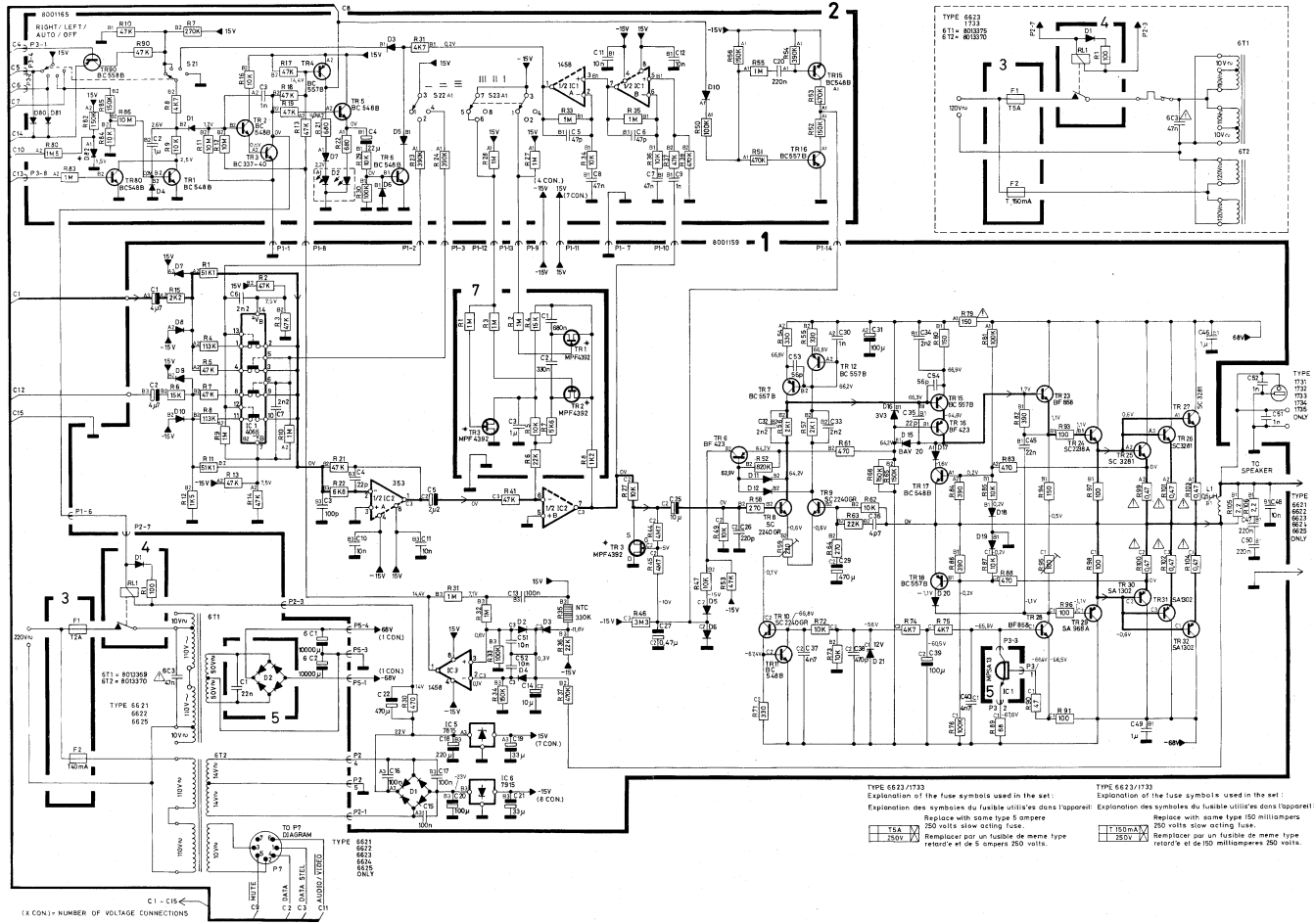


DIAGRAM B, Amplifier and Power Supply



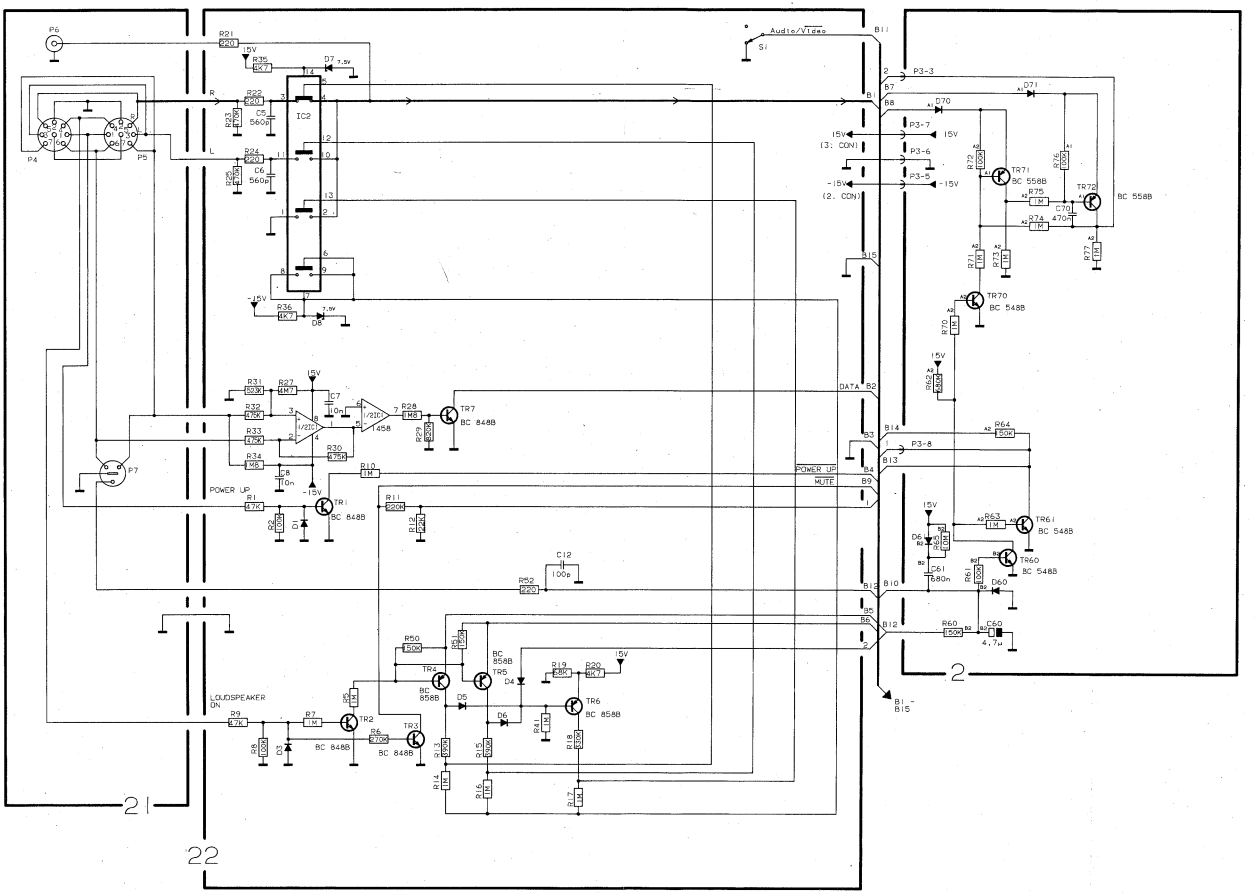
TYPE 6623/1733
Explanation of the fuse symbols used in the set :
Explanation des symboles du fusible utilisés dans l'appareil :

T5A 250V	Replace with same type 5 ampere 250 volts slow acting fuse. Remplacer par un fusible de meme type retard'e et de 5 ampers 250 volts.

TYPE 6623/1733
Explanation of the fuse symbols used in the set :
Explanation des symboles du fusible utilisés dans l'appareil :

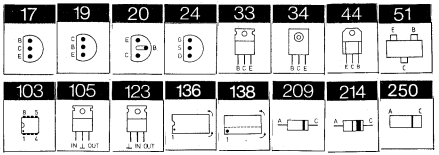
T 150mA 250V	Replace with same type 150 milliampers 250 volts slow acting fuse. Remplacer par un fusible de meme type retard'e et de 150 milliamperes 250 volts.

DIAGRAM C, Input



3-1

LIST OF ELECTRICAL PARTS



Resistors not referred to are standard, see page 3-4

PCB 1, 8001159 Amplifier

IC1△	8340202	**136**	MC 4066 BCP	IC5	8340064	**105**	MC 7815
IC2	8340763	**136**	LF353-TL072	IC6	8340240	**123**	MC 7915 CT
IC3	8340048	**103**	MC 1458 N				

TR3*△	8320396	**24**	MPF 4392	TR17	8320509	**20**	BC 548B
TR6	8320623	**17**	BF 423	TR18	8320503	**20**	BC 557B
TR7	8320503	**20**	BC 557B	TR23	8320646	**44**	BF 858
TR8-10	8320641	**17**	SC 2240 GR	TR24	8320643	**33**	SC 2238A
TR11	8320509	**20**	BC 548B	TR25-27	8320645	**34**	SC 3281
TR12	8320503	**20**	BC 557B	TR28	8320646	**44**	BF 858
TR15	8320503	**20**	BC 557B	TR29	8320642	**33**	SA 968A
TR16	8320623	**17**	BF 423	TR30-32	8320644	**34**	SA 1302

D1	8300466		B125 C1500	D16	8300541	**209**	ZPD 3.3V
D2-12	8300058	**209**	1N 4148	D17-20	8300058	**209**	1N 4148
D15	8300409	**214**	BAV 20-25	D21	8300407	**209**	ZPD 12V

R1	5020363	51.1 kΩ 1% 1/4W	R62	5020110	10 kΩ 1% 1/4W
R4	5020126	113 kΩ 1% 1/4W	R64	5020954	270 Ω 1% 1/4W
R8	5020126	113 kΩ 1% 1/4W	R73	5020127	10 kΩ 5% 1W
R11	5020363	51.1 kΩ 1% 1/4W	R79	5020633	150 Ω 5% 0.35W
R35	5220036	330 kΩ 10% 1/2W	R95	5370341	100 Ω 20% 0.1W
R56-57	5020200	2.1 kΩ 1% 1/4W	R99-R104	5100203	0.47 Ω 10% 2W
R59	5370351	220 Ω 20% 0.1W			

C1-2	4200515	4.7 µF 20% 25V	C30	4010105	1 nF 10% 63V
C3	4100232	100 pF 5% 63V	C31	4200652	100 µF 20% 100V
C4	4000136	22 pF 5% 63V	C32-34	4010103	2.2 nF 10% 63V
C5	4200517	2.2 µF 20% 50V	C35	4003059	22 pF 5% 500V
C6-7	4010103	2.2 nF 10% 63V	C36	4000145	4.7 pF 0.25 pF 63V
C10-11	4010106	10 nF -20+80% 40V	C37	4010101	4.7 nF 10% 63V
C13	4130230	100 nF 20% 63V	C38	4010128	470 pF 10% 63V
C14	4200510	10 µF 20% 16V	C39	4200511	100 µF 20% 10V
C15-17	4130230	100 nF 20% 63V	C40	4010101	4.7 nF 10% 63V
C18	4200311	220 µF -10+100% 40V	C45	4130195	22 nF 5% 250V
C19	4200509	33 µF 20% 25V	C46	4130155	1 µF 10% 100V
C20	4200368	100 µF -10+100% 63V	C47	4130308	220 nF 10% 63V
C21	4200509	33 µF 20% 25V	C48	4012002	10 nF -20+50% 400V
C22	4200704	470 µF 20% 25V	C49	4130155	1 µF 10% 100V
C25	4200510	10 µF 20% 16V	C50	4130308	220 nF 10% 63V
C26	4100234	220 pF 5% 63V	C51-52	4130265	10 nF 10% 63V
C27	4200523	0.47 µF 20% 50V	C53-54	4000362	56 pF 5% 63V
C29	4200665	470 µF 20% 6.3V			

L1	6850114	Coil 0.5 µH

P1	7220143	Plug 14/14 pole
P2	7220203	Plug 10/9 pole
P3	7220313	Plug 3 pole
P5	7220634	Plug 4/3 pole

△ indicates that static electricity may destroy the component.

* Specially selected or adapted sample.

PCB 2, 8001165 Control

IC1	8340048	**103**	MC 1458 CP1				

TR1-2	8320509	**20**	BC 548B	TR60-61	8320509	**20**	BC 548B
TR3	8320595	**20**	BC 337-40	TR70	8320509	**20**	BC 548B
TR4	8320503	**20**	BC 557B	TR71-72	8320510	**20**	BC 558B
TR5-6	8320509	**20**	BC 548B	TR80	8320509	**20**	BC 548B
TR15	8320509	**20**	BC 548B	TR90	8320510	**20**	BC 558B
TR16	8320503	**20**	BC 557B				

D1	8300058	**209**	1N 4148	D60-61	8300058	**209**	1N 4148
D2	8330153		TLSV 5100	D70-71	8300058	**209**	1N 4148
D3-7	8300058	**209**	1N 4148	D80-81	8300058	**209**	1N 4148
D10	8300058	**209**	1N 4148	D82*	8300056	**209**	ZTE 1.5V

R65	5020875	10 MΩ 5% 1/8W

C2	4130399	1 µF 10% 63V	C11-12	4010106	10 nF -20+80% 40V
C3	4010105	1 nF 10% 63V	C20	4130308	220 nF 10% 63V
C4	4200016	22 µF -10+50% 25V	C60	4200842	4.7 µF 20% 16V
C5-6	4000137	47 pF 5% 63V	C61	4130311	680 nF 10% 63V
C7-8	4130240	47 nF 10% 63V	C70	4130313	470 nF 20% 63V
C9	4010105	1 nF 10% 63V			

S21	7400378	Switch
S22-23	7400379	Switch

P3	7220221	Plug 8/8 pole

PCB 3, 8002905 PCB without fuses and mains lead

Type 6621-6622-6625 (EU-GB-AUS)		
F1	6600009	Fuse 2 AT
F2	6600070	Fuse 40 mAT
	6271102	Mains lead (EU-GB)
	6270297	Mains lead (AUS)
Type 6623 (US-CDN)		
F1	6600019	Fuse 5 AT
F2	6600069	Fuse 150 mAT
	6270251	Mains lead
Type 6624 (JAP)		
F1	6600095	Fuse 5 AT
F2	6600103	Fuse 80 mAT
	6271016	Mains lead

PCB 4, 8001166 Relay

D1	8300058	**209** 1N 4148
RL1	7600069	Relay
	3917109	Damping material

PCB 5, 8001167 Bridge

IC1	8340505	**19** MPS A13
D2	8300497	KBU 6D
C1	4130079	22 nF 20% 250V

* Specially selected or adapted sample.

PCB 6, Power Supply
Type 6621-6622-6625

C1-2	4200653	10000 µF 20% 80V	C3	4130394	47 nF 20% 250V
T1	8013369	Transformer	T2	8013370	Transformer

Type 6623

C1-2	4200653	10000 µF 20% 80V	C3	4130397	47 nF 20% 125V
T1	8013375	Transformer	T2	8013370	Transformer

Type 6624

C1-2	4200653	10000 µF 20% 80V			
T1	8013376	Transformer	T2	8013377	Transformer

PCB 7, 8001168
Signal Level

TR1-3*△	8320396	**24** MPF 4392			
C1	4130311	680 nF 10% 63V	C3	4130070	1 µF 10% 50V
C2	4130309	330 nF 10% 63V			
P1	7220544	Plug 5 pole			

PCB 14, 8006028
Crossover Network/
Woofers-Tweeter

R1	5100059	10 Ω 10% 9W	R5	5100200	15 Ω 10% 3W
R3	5100235	1.8 Ω 10% 3W	R6	5100242	6.8 Ω 5% 3W
C1	4200692	68 µF 10% 35V	C7	4200732	5.6 µF 10% 35V
C3	4200692	68 µF 10% 35V	C8	4130155	1 µF 10% 100V
C4	4130152	2.2 µF 10% 100V	C9-10	4130312	680 nF 10% 63V
C5	4130385	3.9 µF 10% 100V			
L1	6850193	Coil 1.8 mH	L5	6850142	Coil 0.15 mH
L2	6850192	Coil 470 µH	L6	6850200	Coil 1.8 mH
L4	6850196	Coil 120 µH	L7	6850198	Coil 390 µH

PCB 15, 8006027
Crossover Network/Midrange

R1	5100340	3.3Ω 10% 9W	R3-4	5100242	6.8 Ω 5% 3W
R2	5104009	10 Ω 10% 3W	R5	5104020	1 Ω 10% 3W
C1	4200731	27 µF 10% 35V	C5	4200682	8.2 µF 10% 35V
C2	4200682	8.2 µF 10% 35V	C6-7	4130312	680 nF 10% 63V
C3	4200692	68 µF 10% 35V	C8	4200683	22 µF 10% 35V
C4	4130385	3.9 µF 10% 100V			
L1	6850197	Coil 270 µH	L4	6850199	Coil 1 mH
L2	6850190	Coil 1 mH	L5	6850166	Coil 47 µH
L3	6850188	Coil 100 µH			

PCB 21, 8001169 Input Socket

P4-5	7210518	8 pole DIN socket	P7	7210521	Loudspeaker socket
P6	7220746	Phono plug			

PCB 22, 8001172 Input Control

IC1	8340996	**138** 1458	IC2	8341024	**138** 4066
TR1-3	8320615	**51** BC 848B	TR7	8320615	**51** BC 848B
TR4-6	8320616	**51** BC 858B			
D1	8300482	**250** LL 4148	D7-8	8300636	**250** ZPD 7.5V
D3-6	8300482	**250** LL 4148			
R30	5011732	475 kΩ 1% 1/8W	R32-33	5011732	475 kΩ 1% 1/8W
R31	5011733	523 kΩ 1% 1/8W			
C5-6	4000325	560 pF 5% 50V	C12	4000292	100 pF 5% 50V
C7-8	4010176	10 nF -20+80% 50V			
S1	7400380	Switch			

△ indicates that static electricity may destroy the component.

* Specially selected or adapted sample.

20	51	105	136	209	224	250

Resistors not referred to are standard, see page 3-4.

PCB 23, 8001173 Microcomputer

IC1	8341163	**105**	78M05				
IC2*Δ	8341211	**136**	80C50				
TR2	8320615	**51**	BC 848B				
TR3	8320616	**51**	BC 858B				
D1	8300466		B125 C1500				
D3	8300482	**250**	LL 4148				
C1	4010166	100 nF -20+80% 50V		C17	4000225	560 pF 5% 50V	
C2	4201087	47 µF -10+100% 40V		C18	4010170	2.2 nF 10% 50V	
C3	4010170	2.2 nF 10% 50V		C19	4200517	2.2 µF 20% 50V	
C4	4010166	100 nF -20+80% 50V		C20-22	4010170	2.2 nF 10% 50V	
C5-6	4000234	47 pF 5% 50V		C24	4200834	470 µF -10+50% 25V	
C7	4000325	560 pF 5% 50V		C50-52	4010170	2.2 nF 10% 50V	
C8	4010166	100 nF -20+80% 50V		C56	4010166	100 nF -20–80% 50V	
C9-16	4010170	2.2 nF 10% 50V					
L1	8020552	Coil 10 µH					
X1	8090009	Crystal 6.000 MHz					
P10	7220862	Plug 11/11 pole					
P11	7220660	Plug 8/8 pole					

PCB 24, 8001174 Display Drive

TR1	8320615	**51**	BC 848B	TR9	8320616	**51**	BC 858B
TR4	8320747	**51**	BC 848C	TR10	8320615	**51**	BC 848B
TR5-7	8320848	**20**	BC 338-25	TR11	8320616	**51**	BC 858B
TR8	8320615	**51**	BC 848B				
D2	8300482	**250**	LL 4148	D5-6	8300023	**209**	1N 4002
D4	8300520	**224**	ZPD 6.8V	D7	8300577	**250**	ZPD 3.9V
R40	5370141	1 kΩ 20% 0.1W					
R49	5020684	0.47 Ω 10% 0.4W					
LDR	5210006	3.3 kΩ 33% - 21 LUX					
C25	4200462	100 µF -10+50% 25V		C53	4000240	56 pF 5% 50V	
C26	4200835	220 µF -20+50% 25V		C54	4010166	100 nF -20+80% 50V	
C30	4010166	100 nF -20+80% 50V					
P110	7210748	Socket 11/11 pole		P113	7220167	Plug 6/6 pole	
P111	7210290	Socket 8/8 pole		P114	7220212	Plug 3/3 pole	
P112	7210723	Socket 16 pole			7210570	Strap	

PCB 25, 8330243 Display

Δ indicates that static electricity may destroy the component.

* Specially selected or adapted sample.

Standard Resistors:

Resistors 5% 1/2 W

	x1	x10	x100	x1K	x10K	x100K	x1M	x10M
1.0		5011000	5011013	5011028	5011044	5010313	5011069	5011083
1.2	5011406	5011001	5011014	5011030	5011045	5011058	5010421	
1.5	5010727	5011002	5011015	5011031	5011046	5011059	5011071	
1.8	5010857	5010787	5011016	5011033	5011047		5011072	
2.2	5011335	5010708	5010815	5011034	5011048	5011061	5011074	
2.7		5010803	5011018	5010055	5011049	5011062	5011075	
3.3	5020803	5011007	5011019	5011037		5011063	5010381	
3.9		5010782	5011021	5010700	5011051		5010392	
4.7	5010765	5011009	5011022	5010035	5010036	5011065	5011078	
5.6		5011010	5011023	5011041		5011066	5011079	
6.8	5010874	5011011	5011024	5011042	5010810	5011067	5011080	
8.2		5011012	5011026	5011043	5010038	5011068	5011081	

Resistors 5% 1/4 W

	x1	x10	x100	x1K	x10K	x100K	x1M	x10M
1.0	5010592	5010508	5010065	5010040	5010059	5010049	5010054	5010638
1.2		5010595	5010128	5010153	5010046	5010047	5010665	
1.5	5011348	5010468	5010057	5010247	5010053	5010063	5010093	
1.8		5010822	5010362	5010066	5010135	5010072	5010791	
2.2	5010682	5010448	5010092	5010064	5010079	5010120	5010245	
2.7	5010925	5010403	5010060	5010298	5010141	5010083	5010431	
3.3		5010233	5010044	5010076	5010075	5010117	5010848	
3.9	5011377	5010622	5010070	5010069	5010060	5010073	5010714	
4.7	5010888	5010411	5010058	5010048	5010045	5010077	5011513	
5.6	5010706	5010151	5010067	5010041	5010061	5010071	5010658	
6.8	5010904	5010039	5010144	5010052	5010062	5010074		
8.2	5010880	5010056	5010068	5010154	5010091	5010505		

Resistors 5% 1/8 W

	x1	x10	x100	x1K	x10K	x100K	x1M	x10M
1.0		5011464	5011357	5010816	5010935	5011440	5011459	5020875
1.2		5011351	5011084	5011442	5011338	5011341	5011175	
1.5		5011463	5011443	5011178	5011364	5011398	5011460	
1.8			5011350	5011361	5011344	5011488		
2.2	5011032	5011376	5010886	5011353	5010833	5011369	5011342	
2.7		5011471	5011355	5011362	5011366	5011370	5011478	
3.3			5011337	5010827	5011346	5011371	5011462	
3.9		5011438	5011817	5011157	5011457	5011372	5020876	
4.7	5011363	5011038	5011441	5011363	5010937	5011343	5011611	
5.6		5011412	5011358	5010885	5011166	5011340		
6.8		5011356	5011336	5010839	5011367	5011458		
8.2		5011466	5011354	5011339	5011368	5011373		

Resistors SMD 2% 1/8 W
SMD 5% 1/8 W

	5%	2%	2%	2%	2%	2%	5%	5%
	x1	x10	x100	x1K	x10K	x100K	x1M	x10M
1.0	5011623	5011647	5011218	5011227	5011241	5011256	5011267	5011730
1.1	5011624	5011648	5011669	5011681	5011689	5011694	5011707	
1.2	5011625	5011649	5011219	5011682	5011490	5011257	5011708	
1.3	5011626	5011650	5011670	5011683	5011242	5011258	5011709	
1.5	5011627	5011651	5011220	5011228	5011243	5011259	5011710	
1.6	5011628	5011652	5011671	5011684	5011690	5011695	5011711	
1.8	5011629	5011653	5011672	5011229	5011244	5011260	5011712	
2.0	5011630	5011654	5011673	5011685	5011691	5011696	5011713	
2.2	5011216	5011655	5011674	5011230	5011245	5011261	5011714	
2.4	5011634	5011656	5011675	5011686	5011246	5011697	5011715	
2.7	5011635	5011657	5011497	5011231	5011247	5011262	5011716	
3.0	5011731	5011658	5011499	5011500	5011692	5011698	5011717	
3.3	5011217	5011659	5011676	5011232	5011248	5011263	5011718	
3.6	5011636	5011660	5011677	5011687	5011249	5011264	5011719	
3.9	5011637	5011661	5011221	5011233	5011491	5011699	5011720	
4.3	5011638	5011662	5011498	5011688	5011492	5011700	5011721	
4.7	5011639	5011269	5011222	5011234	5011250	5011265	5011722	
5.1	5011640	5011663	5011678	5011235	5011493	5011701	5011723	
5.6	5011641	5011664	5011223	5011236	5011251	5011702	5011724	
6.2	5011642	5011665	5011224	5011237	5011693	5011703	5011725	
6.8	5011643	5011666	5011225	5011238	5011252	5011704	5011726	
7.5	5011644	5011667	5011679	5011239	5011253	5011705	5011727	
8.2	5011645	5011270	5011226	5011240	5011254	5011266	5011728	
9.1	5011646	5011668	5011680	5011489	5011255	5011706	5011729	

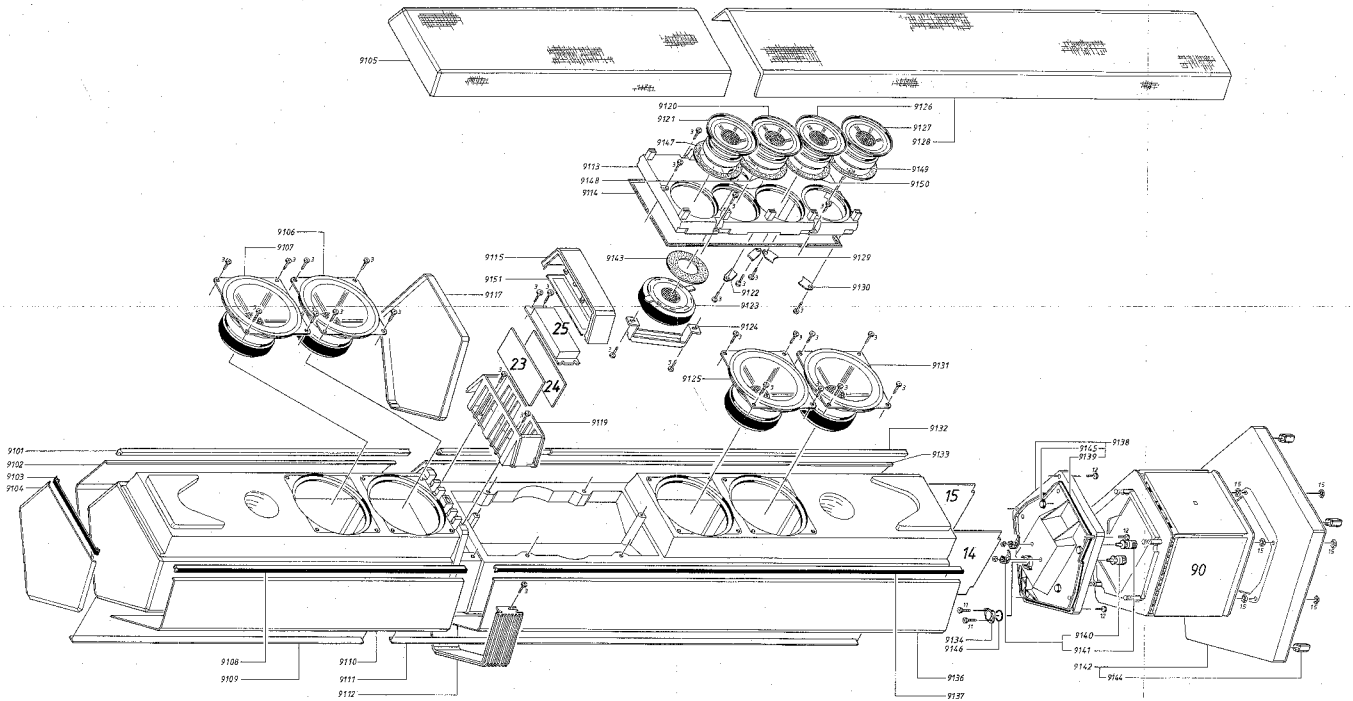
(Glue dots, approx. 200, part no. 3181932).

MEKANISK STYKLISTE
LIST OF MECHANICAL PARTS

Beolab Penta

9101	2560224	Pynteliste, lille	Decorative moulding, small
9102	3302407	Kabinetside og -liste, lille	Cabinet side and moulding, small
9103	2560219	Pynteliste, top	Decorative moulding, top
9104	3458407	Kabinettop	Cabinet top
9105	3450668	Stoframme, lille	Cloth front, small
9106	8480197	Bashøjttaler	Woofer
9107	8480197	Bashøjttaler	Woofer
9108	2560224	Pynteliste, lille	Decorative moulding, small
9109	3452525	Kabinetliste, kort	Cabinet side, short
9110	3302407	Kabinetside og -liste, lille	Cabinet side and moulding, small
9111	3452524	Kabinetliste, lang	Cabinet moulding, long
9112	3444181	Gitter	Grill
9113	3440092	Baffel f/mellemtonehøjttaler	Baffle f/midrange speaker
9114	3947202	Skumtape i metermål	Foam tape by the meter
9115	3320132	Dækglas f/display	Cover glass f/display
9117	3320100	Bånd	Frame
9119	3132125	Skuffe f/PCB	Tray f/PCB
9120	8480196	Mellemtonehøjttaler	Midrange speaker
9121	8480196	Mellemtonehøjttaler	Midrange speaker
9122	2630024	Beslag f/mellemtonehøjttaler	Fitting f/midrange speaker
9123	8480206	Diskanthøjttaler	Tweeter
9124	3031125	Beslag f/diskanthøjttaler	Fitting f/tweeter
9125	8480197	Bashøjttaler	Woofer
9126	8480196	Mellemtonehøjttaler	Midrange speaker
9127	8480196	Mellemtonehøjttaler	Midrange speaker
9128	3450667	Stoframme, stor	Cloth front, big
9129	2630024	Beslag f/mellemtonehøjttaler	Fitting f/midrange speaker
9130	2630024	Beslag f/mellemtonehøjttaler	Fitting f/midrange speaker
9131	8480197	Bashøjttaler	Woofer
9132	2560243	Pynteliste højre, stor	Decorative moulding right, big
9133	3302406	Kabinetside og -liste, stor	Cabinet side and moulding, big
9134	6275649	Ledningsbundt m/7 pol. DIN stik - hun	Wire bundle w/7 pole DIN socket - female
	7210608	7 pol. DIN stik - hun	7 pole DIN socket - female
9136	3302406	Kabinetside og -liste, stor	Cabinet side and moulding, big
9137	2560244	Pynteliste venstre, stor	Decorative moulding left, big
9138	3454478	Bund m/tryk	Bottom w/print
9139	3947202	Skumtape i metermål	Foam tape by the meter
9140	7210596	Skrueterminal, sort	Terminal screw, black
9141	7210595	Skrueterminal, rød	Terminal screw, red
9142	8860250	Glassokkel	Glass socket
9143	3340072	Pakning	Gasket
9144	3103224	Fod	Foot
9145	3103066	Gummifod	Rubber foot
9146	2732084	O-ring	O-ring
9147	3340070	Pakning	Gasket
9148	3340070	Pakning	Gasket
9149	3340070	Pakning	Gasket
9150	3340070	Pakning	Gasket
9151	3183092	Afdækning f/display	Masking f/display

14Modul	8006028	PCB14, Crossover Network/Woofers-Tweeter
15Modul	8006027	PCB15, Crossover Network/Midrange
23Modul	8001173	PCB23, Microcomputer
24Modul	8001174	PCB24, Display Drive
25Modul	8330243	PCB25, Display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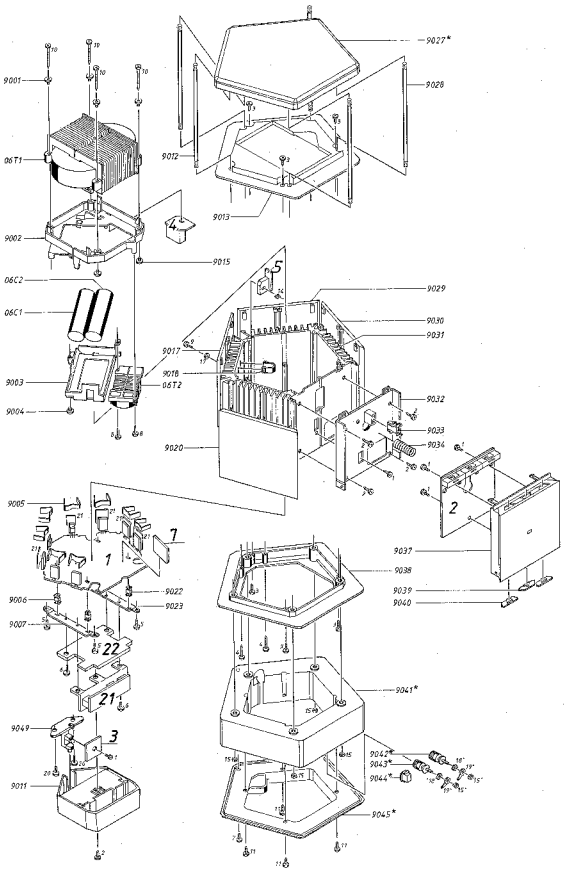
4-3

Bang & Olufsen

Power Amplifier



** Kun i Beolab 200, type 173x*

** Only in Beolab 200, type 173x*

Power Amplifier

9001	2938154	Bøsning	Bushing
9002	3152455	Holder f/elektrolytter	Holder f/electrolytes
9003	3164608	Låg f/elektrolytter	Cover f/electrolytes
9004	2938154	Bøsning	Bushing
9005	2819157	Bøjle	Clamp
9006	3152063	Holder f/PCB1	Holder f/PCB1
9007	2542669	Vinkel f/PCB1	Bracket f/PCB1
	3947202	Skumtape i metermål f/vinkel	Foam tape by the meter f/bracket
9011	3164742	Dæksel f/stikbrønd	Cover f/socket
9012	2076007	Gevindstykke	Threaded piece
9013	3162266	Sammenspændingsstykke	Assembling piece
9015	2938154	Bøsning	Bushing
9017	3164748	Dækplade m/tryk, type 6621	Cover plate w/print, type 6621
	3164749	Dækplade m/tryk, type 6622	Cover plate w/print, type 6622
	3164751	Dækplade m/tryk, type 6623	Cover plate w/print, type 6623
	3164753	Dækplade m/tryk, type 6624	Cover plate w/print, type 6624
	3164750	Dækplade m/tryk, type 6625	Cover plate w/print, type 6625
9018	3152507	Ledningsholder	Wire holder
9020	3164602	Dækplade	Cover plate
9022	3152063	Holder f/PCB1	Holder f/PCB1
9023	2542669	Vinkel f/PCB1	Bracket f/PCB1
	3947202	Skumtape i metermål f/vinkel	Foam tape by the meter f/bracket
9028	2076007	Gevindstykke	Threaded piece
9029	3164603	Dækplade	Cover plate
9030	3164602	Dækplade	Cover plate
9031	2568847	Køleprofil	Heat sink
9032	3452527	Bagstykke, betjening	Rear cover, control
9033	3034066	Lås f/låg	Lock f/lid
9034	2812113	Trykfjeder	Pressure spring
9037	3168769	Betjeningspanel	Control panel
9038	3162268	Sammenspændingsstykke	Assembling piece
9039	2776037	Knap omskifter	Switch button
9040	2776037	Knap omskifter	Switch button
9049	3152657	Holder f/netledning	Holder f/mains lead

01Modul	8001159	PCB1, Amplifier
02Modul	8001165	PCB2, Control
03Modul	8002905	PCB3, PCB without fuses and mains lead
	6271102	Mains lead, type 6621-6622
	6270251	Mains lead, type 6623
	6271016	Mains lead, type 6624
	6270297	Mains lead, type 6625
04Modul	8001166	PCB4, Relay
	3917109	Damping material
05Modul	8001167	PCB5, Bridge
06T1	8013369	Transformer, type 6621-6622-6625
	8013375	Transformer, type 6623
	8013376	Transformer, type 6624
06T2	8013370	Transformer, type 6621-6623-6625
	8013377	Transformer, type 6624
06C1	4200653	10000 uF 20% 80V
06C2	4200653	10000 uF 20% 80V
	3917109	Damping material
07Modul	8001168	PCB7, Signal Level
21Modul	8001169	PCB21, Input Socket

21P4	7210518	8 pole DIN socket	21P6	7220746	Phono plug
21P5	7210518	8 pole DIN socket	21P7	7210521	Loudspeaker socket

22Modul	8001172	PCB22, Input Control

Ikke viste dele
Parts not shown

6275627	Ledningsbundt m/7 pol. DIN stik - han	Wire bundle w/7 pole DIN plug - male
7220205	7 pol. DIN stik - han	7 pole DIN plug - male
3040028	Topnegle	Socket spanner
3922023	Dæmpematerialæ	Damping material
3922025	Dæmpematerialæ f/mellemtone, lille	Damping material f/midrange, small
3922024	Dæmpematerialæ f/mellemtone, stor	Damping material f/midrange, big
3946038	Folie i meter	Foil by the meter
3397604	Skumemballage f/glassokkel	Foam packing f/glass socket
3397555	Skumemballage mellemstykker	Foam packing f/spacers
3397554	Skumemballage endestykker	Foam packing f/end pieces
3391838	Yderæske	Outer carton
3397601	Skumemballage f/bund	Foam packing f/bottom

Oversigt over skruer, skiver m.m.
Survey of screws, washers etc.

1	2013208	Skrue 2,9 x 9,5 mm	Screw 2.9 x 9.5 mm
2	2039027	Skrue 3 x 6 mm	Screw 3 x 6 mm
3	2015088	Skrue 3,5 x 16 mm	Screw 3.5 x 16 mm
4	2015116	Skrue 3,5 x 25 mm	Screw 3.5 x 25 mm
5	2015201	Skrue 3,5 x 9,5 mm	Screw 3.5 x 9.5 mm
6	2039026	Skrue 3 x 4 mm	Screw 3 x 4 mm
7	2039028	Skrue 3 x 8 mm	Screw 3 x 8 mm
8	2015008	Skrue 3,5 x 13 mm	Screw 3.5 x 13 mm
9	2039014	Skrue 3 x 20 mm	Screw 3 x 20 mm
10	2015115	Skrue 3,5 x 50 mm	Screw 3.5 x 50 mm
11	2013107	Skrue 2,9 x 9,5 mm	Screw 2.9 x 9.5 mm
12	2043016	Skrue 4 x 10 mm	Screw 4 x 10 mm
14	2380011	Møtrik M3	Nut M3
15	2380016	Møtrik M4	Nut M4
17	2624013	Skive	Washer
20	2015108	Skrue 3,5 x 16 mm	Screw 3.5 x 16 mm
21	3170169	Glimmerskive	Mica washer

TILBEHØR
ACCESSORIES

6270336	4 pol DIN skærmet HT ledning – 5 m	4-pin DIN shielded speaker cable – 5 m
6270352	4 pol DIN skærmet HT ledning – 10 m	4-pin DIN shielded speaker cable – 10 m
6270350	2 pol DIN skærmet HT ledning – 5 m	2-pin DIN shielded speaker cable – 5 m
6270417	8 pol DIN Power Link ledning – 2,5 m	8-pin DIN Power Link cable – 2.5 m
6270418	8 pol DIN Power Link ledning – 5 m	8-pin DIN Power Link cable – 5 m
6270419	8 pol DIN Power Link ledning – 10 m	8-pin DIN Power Link cable – 10 m
7229075	Adaptor f/Power Link – 8 pol DIN hun/8 pol DIN hun	Adaptor f/Power Link - 8-pin DIN female/8-pin DIN female

OWNER's MANUALS

3506145	Dansk	Danish
3506146	Svensk	Swedish
3506147	Finsk	Finnish
3506148	Engelsk	English
3506149	Tysk	German
3506150	Hollandsk	Dutch
3506151	Fransk	French
3506153	Italiensk	Italian
3506154	Spansk	Spanish

JUSTERINGER

Tomgangsstrøm

Tomgangsstrøm justeres medens forstærkeren er kold og uden signal tilført.

Højttaler må ikke være tilsluttet.

DC millivoltmeter tilsluttes over modstandene 1R103/1R104, dvs. fra emitteren på 1TR32 til emitteren på 1TR27.

1R95 justeres til 30mV.

Offset

DC voltmeter tilsluttes højttalerudgangen.

1R59 justeres til 0 V.

Display

DC voltmeter tilsluttes stel og 24TP1.

Med potentiometer 24R40 justeres kontrastspændingen til 1,9V ±0,05V.

ADJUSTMENTS

No-load current

Adjust the no-load current while the amplifier is cold and without any supply of signal.

The loudspeaker must not be connected to the amplifier.

Connect the DC millivoltmeter across the two resistors 1R103/1R104, that is from the emitter of 1TR32 to the emitter of 1TR27.

Adjust 1R95 to 30mV.

Offset

Connect the DC voltmeter to the loudspeaker output.

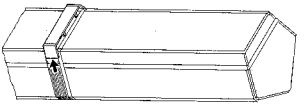
Adjust 1R59 to 0 V.

Display

Connect DC voltmeter across ground and 24TP1.

Use potentiometer 24R40 to adjust contrast voltage to 1.9V ±0.05V.

ADSKILLELSE
Display

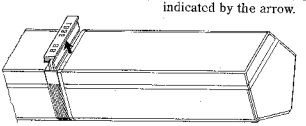


Dækslet afmonteres ved at trække i pilens retning.

Ved at løsne de 4 skruer kan display-enheden frigøres, og løftes ud i serviceposition.

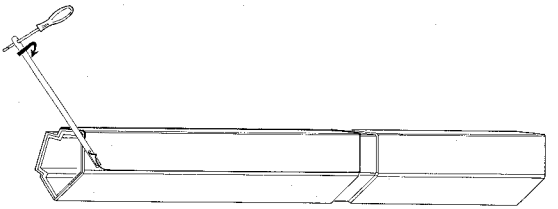
DISMANTLING
Display

Dismantle the cover by pulling it in the direction indicated by the arrow.



By loosening the 4 screws the display unit become accessible and can be lifted up in service position.

REPARATIONSTIPS
Udskiftning af rustfrit stål



De rustfrie stålpaneler løsnes forsigtigt i et af hjørnerne.

Hjælpeværktøj bestillingsnr. 3629116 benyttes som vist på tegningen.

REPAIR HINTS
Replacement of stainless steel

Loosen the stainless steel panels carefully in one corner.

Use the service tool, part no 3629116 as shown on the drawing.

ISOLATIONSTEST

Ethvert apparat skal isolationstestes, efter at det har været adskilt. Testen udføres, når apparatet er samlet igen og er klar til udlevering til kunden.

Der må ikke forekomme overslag under testen!

Isolationstesten udføres på følgende måde:

De to stikben på netstikket kortsluttes og tilsluttes den ene af terminalerne på isolationstesteren. Den anden terminal tilsluttes stel på phonobøsningen (LINE IN).

OBS!
For at undgå beskadigelser af apparatet er det vigtigt, at begge terminaler på isolationstesteren har virkelig god kontakt.

Spændingsreguleringen på isolationstesteren drejes langsomt op, indtil en spænding på 1,5-2 kV er opnået. Her skal den holdes i ét sekund, hvorefter der langsomt drejes ned for spændingen igen.

INSULATION TEST

Each set must be insulation tested after having been dismantled. Make the test when the set has been reassembled and is ready to be returned to the customer.

Flashovers must not occur during the testing procedure!

Make the insulation test as follows:

Short-circuit the two pins of the mains plug and connect them to one of the terminals of the insulation tester. Connect the other terminal to ground in phono socket (LINE IN).

NOTE!
To avoid damaging the set it is essential that both terminals of the insulation tester have good contact.

Slowly turn the voltage control of the insulation tester until a voltage of 1.5-2 kV is obtained. Maintain that voltage for one second, then slowly turn it down again.

Bang & Olufsen

LIST OF MECHANICAL PARTS

Stand for red line
1603413 RL 60, Grey
1603466 RL 60, Black
1603469 RL 60, Silvergrey
1603513 RL 140, Grey
1603566 RL 140, Black
1603569 RL 140, Silvergrey

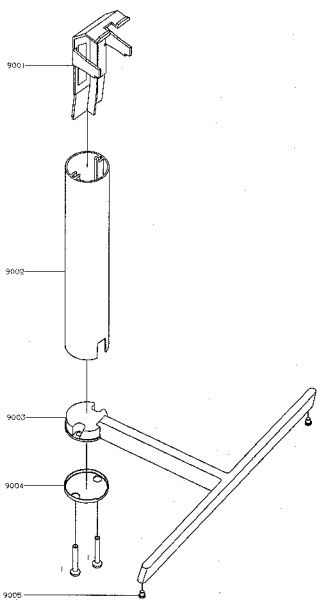
9001	3031311	Fitting, RL 60
	3031312	Fitting, RL 140
9002	2570075	Stanchion, RL 60
	2570077	Stanchion, RL 140
9003	3103304	Base, RL 60, Grey
	3103330	Base, RL 60, Black
	3103331	Base, RL 60, Silvergrey
	3103305	Base, RL 140, Grey
	3103334	Base, RL 140, Black
	3103335	Base, RL 140, Silvergrey
9004	3454675	Bottom, RL 60
	3454676	Bottom, RL 140
9005	3035055	Slide Shoe

Screws

1	2046013	Screw 6 x 20

Parts not shown

	3392142	Wrapper, RL 60
	3392141	Wrapper, RL 140
	3397717	Foam packing, Bottom, RL 60
	3397718	Foam packing, TOP, RL 60
	3397715	Foam packing, Bottom, RL 140
	3397716	Foam packing, TOP, RL 140



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